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ABSTRACT

The frequency of educational and psychological problems was examined in 138 school-aged abused children. Related literature was reviewed to present the history, magnitude, and demographic aspects of child abuse and to analyze current knowledge in terms of the adequacy of research methodology and design. Data for the study were drawn from juvenile court records and the following variables were investigated: frequency of special education placement; frequency of speech therapy and psychological counseling; frequency of institutional placement; type and frequency of traits and behaviors which may be indicative of psychological problems; and academic achievement levels. Findings showed that the frequency of placement in classes for the educable retarded and emotionally disturbed was significantly greater for the abused population than the school district population not reported as abused; that the number of abused children receiving speech therapy was not statistically significant; that the number of abused children found in psychiatric institutions was greater than in the general population; that abused children had traits and behaviors indicative of psychological problems; and that academic achievement of abused children was below grade level in a majority of cases. (Among appended material are the abused child concept scheme, abused child glossary of terms, data collection checklist, and school population figures.) (Author/SB)

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FINAL REPORT

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EDUCATIONAL and PSYCHOLOGICAL PROBLEMS of ABUSED CHILDREN

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September, 1975

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TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS ii

LIST OF TABLES v

LIST OF FIGURES viii

ABSTRACT ix

Chapter

I. PROBLEM 1

Introduction 1
Statement of the Problem 3
Purpose and Objectives 5
Hypotheses 6
Questions 7
Definition of Terms 7
Delimitations 10

II. REVIEW OF LITERATURE 12

Introduction 12
Historical Perspective 12
Incidence of Abuse 20
Types of Injuries 24
Types of Abuse Resulting in Death 29
Types of Injuries: Summary 30
Demographic Characteristics of Abused Children 31
Demographic Characteristics of Abusers 32
Psychological Variables 37
Sequelae to Abuse 41
Summary 45

III. PROCEDURES 47

Subjects 47
Abuse and Demographic Data 49
Education Data 55
Design 59
Analysis 60

TABLE OF CONTENTS (Continued)

Page

Chapter

IV. RESULTS AND DISCUSSION 62

Introduction 62
Educational Placement: Results and Discussion 62
Psychological Problems: Results and Discussion 81
Academic Achievement: Results and Discussion . 89
Multiple Injuries 102

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . 104

Summary 104
Conclusions 106
Recommendations 108

BIBLIOGRAPHY 111

APPENDICES 118

Appendix A. Abused Child Concept Analysis Scheme . . 119
Appendix B. Abused Child Concept Glossary of Terms 121
Appendix C. Letter to Division of Family Services . . 127
Appendix D. Authorization Letter from the Division of Family Services 131
Appendix E. Data Collection Instrument 133
Appendix F. Criteria for Data Collection Accuracy Check 135
Appendix G. Data Collection Checklist 137
Appendix H. Support Letter Received from Elwood Pace 139
Appendix I. Letter Mailed to School District Directors of Personnel 141
Appendix J. Census Record Form 143
Appendix K. I.Q. Scores 145
Appendix L. School Population Figures 148
Appendix M. Chi-Square Contingency Tables 150
Appendix N. Psychological Problems Matrices 159

LIST OF TABLES

Table Page

1. Summary of Injury Data in Abused Child Samples 26

2. Summary of Selected Individual Case Studies Injury Data 28

3. Summary of Follow-Up Studies of Abused Children . . 44

4. Data Collector Accuracy 51

5. Data Collector Accuracy Following Adoption of Data Collection Checklist 52

6. Subject Attrition 54

7. Educational Placement of Abused Children in 10 School Districts 63

8. Special Education Placement 64

9. Placement in Classes for the Learning Disabled . . . 65

10. Placement in Educable Mentally Retarded Classes . . 65

11. Placement in Emotionally Disturbed Classes 66

12. Educational Placement for Three Injury Categories . . 69

13. Frequency of Abused Children Categorized as Speech Handicapped 73

14. Types of Injuries of Those Receiving Psychological Counseling 75

15. Types of Injuries of Those Classified as Receiving Speech Services 76

16. Abused Children in the State Hospital 78

17. Abused Children at Boy's Ranch 78

18. Type of Abuse and Mental Hospital Placement . . . 79

19. Frequency of Psychological Problems 83

20. Psychological Traits and Behaviors for Three Categories of Abuse 88

LIST OF TABLES (Continued)

Table   Page

21. Spelling Achievement Reported by Percentile . . . 91

22. Spelling Achievement Reported by Grade Level . . . 92

23. Mathematics Achievement Reported by Percentile . . . 94

24. Mathematics Achievement Reported by Grade Level . . 95

25. Reading Achievement Reported by Percentile 96

26. Reading Achievement Reported by Grade Level . . . 97

27. Average Grade Level Difference by Grade Level . . . 99

28. Academic Achievement for Three Categories of Abuse . . 100

29. Multiple Injuries 102

30. Total Population Utah State Schools 149

31. Abused Children with Bruises-Welts-Scars in Classes for the Learning Disabled 151

32. Abused Children with Bruises-Welts-Scars in Classes for the Emotionally Disturbed 151

33. Abused Children with Bruises-Welts-Scars in Classes for the Educable Mentally Retarded 152

34. Abused Children with Neglectful Injuries in Classes for the Learning Disabled 152

35. Abused Children with Neglectful Injuries in Classes for the Emotionally Disturbed 153

36. Abused Children with Neglectful Injuries in Classes for the Educable Mentally Retarded 153

37. Sexually Abused Children in Classes for the Emotionally Disturbed 154

38. Sexually Abused Children in Classes for the Educable Mentally Retarded 154

39. Sexually Abused Children Receiving Speech Services . . 155

40. Neglected Children Receiving Speech Services . . . 155

LIST OF TABLES (Continued)

Table Page

41. Children with Bruises-Welts-Scars Receiving Speech Services 156

42. Sexually Abused Children in the State Hospital 156

43. Neglected Children in the State Hospital 157

44. Children with Bruises-Welts-Scars in the State Hospital 157

45. Neglected Children at Boy's Ranch 158

LIST OF FIGURES

Figure Page

1. Psychological problems matrix 84
2. Sexual abuse: Total group 160
3. Total group: Neglectful 161
4. Total group: Bruises-welts-scars 162

ABSTRACT

Educational and Psychological Problems of Abused Children

by

Donald Kline and James Lee Christiansen

Utah State University, 1975

It is estimated that each year in the United States as many as 1,175,000 children are subjected to abuse. Despite an increased research empahsis, little is known about sequelae to abuse. It was the purpose of this paper to examine the frequency that educational and psychological problems were present in a population of abused children. The following variables were investigated: (1) the frequency of special education placement; (2) the frequency that abused children received speech therapy and psychological counseling: (3) the frequency of institutional placement; (4) the type and frequency of traits and behaviors which may be indicative of psychological problems; and (5) academic achievement levels.

The subjects consisted of all school-age children who had been referred to the Juvenile Court in a four-county area during the past six years. Of the 355 cases identified, data were available on 138 abused children from Division of Family Services, State Office of Education, and local school district records.

The results of the study showed that the frequency of placement in classes for the educable retarded and emotionally disturbed was significantly greater than in the school district population who had not been reported as abused.

The findings showed that the number of abused children receiving speech therapy was not statistically significant. The findings concerning the need for psychological counseling were inconclusive due to the unavailability of comparison data in the population not reported as abused.

The number of children found in psychiatric institutions was greater than in the general population of the state of Utah. Further, abused children were shown to have traits and behaviors indicative of psychological problems.

Academic achievement of abused children was below grade level in a majority of cases.

The findings of the study showed that the abused children in the population studied had significant psychological and educational problems.

(172 pages)

CHAPTER I

PROBLEM

Introduction

Throughout history children have been beaten, starved, deprived, murdered, or otherwise subjected to psychological and physical torture. As DeMause wrote (1975): "The human track record on child raising is bloody, dirty, and mean . . . the history of childhood is a nightmare from which we have only recently begun to awaken" (p. 85).

As early as the beginning of the twentieth century, newly developed medical techniques began to reveal types of injuries which were of traumatic but unknown origin. Surprisingly, parents or caretakers were not cited in the medical literature as a specific cause of injuries until 1953 (Silvermann, 1953). Not much attention was focused on the problem until almost 10 years later. It was not until 1967 that child abuse laws were passed in all 50 states (Gil and Noble, 1969). The emphasis on research also increased during that time. The vast majority of the articles published in the area of child abuse has appeared since 1961 (Kline and Hopper, 1975).

Although child abuse is receiving more research emphasis, the value of many of the existing findings has been questioned. Gil (1970) described existing research as unsystematic, fragmented, and distorted. Spinetta and Rigler (1972) stated that well designed studies in child abuse are difficult to find. It was their conclusion that most of the literature is "composed of professional opinions on the subject" (p. 296).

The lack of a common definition of abuse has been identified as a major problem. In discussing the validity and reliability of child abuse research, Gil (1970) commented that some of the differences in findings and interpretations "were clearly due to differences in the definitions used by various investigators" (p. 35). Kempe and Helfer (1972, p. xi) identified the lack of a suitable definition as a primary source of confusion, misunderstanding, and limited communication among investigators of child abuse. Burland, Andrews, and Headsten (1973) stated that child abuse had not been adequately defined as a psycho-social entity.

In response to the need for a clear definition of child abuse, Kline and Hopper (1975) utilized the concept analysis procedure outlined by Markle and Tieman (1969) to develop a construct of child abuse. The scheme is unique in that the abused child is described in terms of critical attributes identified in the extant child abuse literature. The critical attributes represent a compilation of traits drawn from the literature published in journals devoted to law, social work, psychology, and medicine. A preliminary validation study of the scheme utilized personnel from the field of social work, medicine, psychology, and education. The data indicate that the scheme possesses a high degree of content validity and should provide a reference point for future studies of child abuse (see Appendix A for Abused Child Concept Analysis Scheme).

An extensive review of the literature revealed a conspicuous lack of data concerning the educational problems of abused children. Only one study utilized educational variables. Gil (1971) found that 13% of a total sample of 12,610 abused children were either retarded or in classes below their age level. It is difficult to evaluate these findings as he combined retarded with those who were in grades below their age level. Also, he does not describe a specific criterion for subject selection. There are no studies which describe the prevalence of other handicapping education problems in the abused child population. Furthermore, there are no data which describe the level of academic achievement of abused children who are placed in regular classes, and there are no data which indicate the number of these children who are receiving support services such as psychological counseling or speech therapy. Some studies, however, provide evidence that the effects of abuse are likely to result in impaired functioning which later may be related to educational problems. The presence of emotional problems in abused children has been reported by some authors (Avery, 1973; Bryant, Billingsley, Kerry, Leefman, Merrill, Senecal, & Walsch, 1963; Galdston, 1971). A relationship between mental retardation and abuse has been reported by others (Elmer & Gregg, 1967; Morse, Sahler, & Friedman, 1970).

Statement of the Problem

Within our educational system there are children who differ significantly in physical, social, emotional, or academic characteristics. These handicaps often require specialized programs. In cases where problems are severe, such children are categorized as emotionally disturbed, learning disabled, or retarded. Such children are typically assigned to specialized classes or receive part-time services from a special teacher. As might be expected, the cost of providing such services is higher than for the regular student. Another factor which needs to be considered is the cost to society. Handicapped individuals frequently place an additional burden on other institutions; vocational rehabilitation, specialized institutional placement, community mental health services, specialized sheltered workshops, and the like are often required in order to prepare or maintain handicapped individuals in the community.

It may seem logical to assume that abused children would frequently be emotionally or physically handicapped. An analysis of existing research studies, however, revealed that not much is known about the problems beyond the immediate physical difficulties. There are several factors which account for the present state of knowledge:

1. The vast majority of the follow-up studies of abused children are concerned only with the types of physical injuries.

2. Only a very few studies are addressed to determining possible problems beyond the immediate physical effects.

3. These studies have assessed only a small number of dependent variables.

4. Much of the current knowledge can be questioned due to possible biased sample selection, since the majority of the studies have drawn their samples from a single institution or source.

5. There are no follow-up studies in which educational variables are assessed.

The current state of knowledge may, therefore, be termed as fragmented and possibly not valid in terms of sequelae to abuse.

The problem is then that there is a lack of research addressed to the sequelae of abuse. More specifically, it has not been determined whether or not abused children are more likely to be educationally handicapped or have psychological problems than children who have not been diagnosed as abused.

Purpose and Objectives

The purpose of this study was to determine the degree to which educational and psychological handicaps were present in a selected population of abused children.

The objectives were as follows:

1. To determine whether or not abused children are more likely to be in special education classes than those who have not been identified as abused.

2. To determine whether or not abused children are more likely to require specialized services than those who have not been identified as abused.

3. To assess the academic achievement levels of abused children in the areas of mathematics, spelling, and reading.

4. To discover whether or not abused children are more likely to be placed in specialized institutions than those who have not been identified as abused.

5. To determine whether or not the kind of injury resulting from abuse is associated with the type of subsequent educational handicap.

6. To determine whether or not type of injury resulting from abuse is related to psychological problems as described on the Abused Child Concept Analysis Scheme.

Hypotheses

Educational Placement

1. The frequency of abused children in special education classes will not differ significantly from the frequency that would be expected in the student population not identified as abused of specified school districts.

2. The frequency of abused children classified by type of injury in special education classes will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

Specialized Services

3. The frequency of abused children who receive specialized services will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

4. The frequency of abused children classified by type of injury who receive specialized services will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

Specialized Institutional Placement

5. The frequency of abused children in specialized residential institutions will not differ significantly from the frequency that would be expected in the school-age population in the state of Utah.

6. The frequency of abused children classified by type of injury in specialized residential institutions will not differ significantly

from the frequency that would be expected in the school age population in the state of Utah.

Questions

Psychological Problems

1. What is the frequency of psychological problems among the abused population?

2. Is type of injury a factor related to the frequency and kind of psychological problems exhibited in the abused population?

Academic Achievement

3. Do spelling achievement levels obtained by abused children differ from estimated normative levels?

4. Do mathematics achievement levels obtained by abused children differ from estimated normative levels?

5. Do reading achievement levels obtained by abused children differ from estimated normative levels?

6. Is type of injury related to the academic achievement as shown by standardized tests in mathematics, spelling, and reading?

Definition of Terms

Abused Child

The Abused Child Concept Analysis Scheme (Kline and Hopper, 1975) was utilized for two purposes--to determine whether or not a particular child could be labeled as abused and to classify abused children into categories of abuse.

According to the scheme, in order for a child to be classified as an abused child three critical attributes must be present. These are:

(a) the child must be under 18 years of age, (b) the child must be under the charge of a caretaker, and (c) the child must be non-accidentally injured.* If these attributes were not present, the child was adjudged as not abused. The scheme also lists types of injury. Types of injury were given the status of irrelevant attributes. Although the presence of an injury (irrelevant attribute) is necessary in order to substantiate the form of abuse, unless the three critical attributes are also present, the child cannot be classified as an abused child. Thus, for the purposes of this study, an abused child is a child who possesses the three critical attributes and at least one irrelevant attribute.

The following types of injury are found on the concept analysis scheme: (a) psychological; (b) neglectful; (c) bruises, welts, and scars; (d) burns; (e) central nervous system; (f) bone; and (g) visceral abdominal. For the purposes of this study the abused children were categorized by the type of injury. As will be seen, however, the population studied did not contain sufficient numbers of individuals in all of the categories to make comparisons with the normal population.

Special Education Placement

For the purposes of this study, special education placement is the assignment of a child to a special teacher on a part or full-time basis. The following categories of educational placement were utilized:**

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*See Appendix B for glossary of terms used in Concept Analysis Scheme.

**Guidelines for Programs for the Handicapped, adopted by the Utah State Board of Education, July 1, 1974, pp. 45-48.

Emotionally disturbed. The pupil must have displayed classroom behavior which was of serious concern to the teacher, children, and other appropriate personnel. He may be withdrawn, explosive, hyperactive or unmanageable in the classroom situation. This behavior should be an intensive pattern of some duration, not a reaction to an immediate situation.

Learning disabilities. Pupils with special (specific) learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage.

Educable mentally retarded. These are generally 55-75 I.Q. range. Extreme care should be taken in the use of I.Q. scores. On an individual psychological test, mental retardation is generally indicated by a low score with a flat profile. Many pupils scoring in the 70's with a spiked profile should more properly be considered as having a learning disability. Intellectual disabilities that prevent proper growth through regular program offerings appear capable of acquiring primary academic skills, social adequacy and occupational competency.

Trainable mentally retarded. These are generally 40-60 I.Q. range and unable to keep up with an educable class with reasonable possibility of acceptable behavior in social groups. They do have some ability to acquire personal competency to become, in part, self-directing individuals. House Bill 105 provided for an expansion of service to any severely handicapped child who cannot fit in some other program.

Specialized Services

Some students require specialized help in the following areas: speech correction, hard of hearing, and psychological counseling.

These services are typically provided by specialists outside of the regular classroom.

Specialized Institutions

In the state of Utah there are several types of residential institutions designed to provide services for the more severely handicapped individuals. These have been classified into the following categories: (a) institutions for the emotionally handicapped, e.g., the State Hospital, (b) institutions for the retarded, and (c) those institutions which deal primarily with the delinquent or socially maladjusted child.

Delimitations

A problem which exists in studies of abused children is the assumed high degree of underreporting. In order for the results of a study to be generalizable, a random sample must be obtained from the entire population. In the study of the characteristics of abused children this is difficult to achieve. The findings of this study are further delimited due to the sampling procedures. The study population consisted only of cases which were adjudicated by the juvenile courts. These cases, therefore, consist of cases which tend to be severe enough to necessitate court intervention. The study population, thus, is not representative of all abused children.

A further delimitation has resulted from the inadequacy of existing record keeping systems. A substantial number of case records did not contain sufficient documentation of injury data to be included in this study. Also, a number of the subjects had moved from the state and could not be found in the school census reports. Thus, several factors have delimited the study population. Generalization of the findings to other groups of abused children will need to be considered in the light of the characteristics of the population in this study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The review of literature has been organized to present the history, magnitude, and demographic aspects of child abuse; an understanding of these factors is considered essential if the reader is to grasp the complexity and significance of the abuse problem.

Another major purpose of the review has been to analyze current knowledge in terms of the adequacy of research methodology and design. The reader will, thus, be provided with a perspective by which to evaluate the findings of the present study in terms of existing knowledge.

Historical Perspective

Violence towards children is not a new phenomenon. Brutality in its many forms is deeply rooted in our cultural and religious history (Thomas, 1972). As noted by Sampson (1972) who commented on abuse, "children have died of it for centuries, and those it doesn't kill outright are frequently crippled" (p. 1605). One author (Bloch, 1973) stated that present violence is best understood when viewed in an historical perspective.

Infanticide, the killing of newborn infants, has been widely practiced in many cultures "including Eskimo, Polynesian, Egyptian, Chinese, Scandinavian, African, American Indian, and Australian aborigine" (Bakan, 1971, p. 30).

Many reasons have been given for the killing of young children--the maintenance of discipline, the elimination of defectives, religious superstition, and the presence of a cultural system in which children were not highly valued (Bakan, 1971; Fontana, 1965; Radbill, 1974).

Aristotle was quoted by Russell (1945): "The justice of a master or a father is a different thing from that of a citizen, for a son, or a slave is property, and there can be no injustice to one's own property" (p. 174).

This idea of ownership was reflected in the Roman *Patrias Potestas* which gave the Roman father the right to sell, abandon, devour, kill, offer in sacrifice, or dispose of his offspring (Van Stolk, 1972, p. 104). Bloch (1973) reported that during the "Alexandrian era, abandoned infants were left on dung heaps and devoured by dogs or were sold as slaves" (p. 799).

In some societies it was common to destroy all defective children. Plato, Aristotle, and Seneca decreed that the killing of defective children was a wise custom (Bakan, 1971). In other societies children were deliberately maimed and crippled in order to make them more effective beggars (Fontana, 1973; Van Stolk, 1972). Types of mutilation included gouged eyes, deformed feet, and amputated or twisted arms (Thomas, 1972).

The ritualized murder of children has been known to occur. In some cultures it was the custom to consecrate buildings by burying infants under foundations. As reported by Bakan (1971): "Archaeological finds have revealed many jars among the Canaanites with bones of newborn infants. The jars had been buried under house corners, thresholds, and floors" (p. 29).

The *Boni Hommes*, a heretical medieval sect, reportedly engaged in a rite in which a deliberately injured child was passed from person to person, the idea being that "the spirit of the dead child would descend on the person in whose arms he died" (Bakan, 1971, p. 34). In early Mexico it was common to use human sacrifice to promote the growth of maize. An infant was sacrificed when the grain was sown--young children when it sprouted, and older children as the maize matured (Fontana, 1973, p. 5).

Brutal physical punishment has been sanctioned by religious teachings. The philosophy of "spare the rod and spoil the child" appears many times in the Bible.* Van Stolk (1972) reported that "beatings to drive out the devil were a form of psychiatric treatment especially applied to children, particularly where epilepsy was attributed to demonical possession" (p. 103). Early Colonial America adopted strict measures for dealing with children. In Connecticut and Massachusetts a father was permitted by statute to put his child to death, and if need be he could call upon government officers to assist (Light, 1973, p. 559).

---

*Proverbs 13:24. "He that spareth his rod hateth his son; but he that loveth him chasteneth him betimes."

Proverbs 19:18. "Chasten thy son while there is hope, and let not thy soul spare for his crying."

Proverbs 22:15. "Foolishness is bound in the heart of a child; but the rod of correction shall drive it far from him."

Proverbs 23:13. "Withhold not correction from the child: for if thou beatest him with the rod, he shall not die." 14: "Thou shalt beat him with the rod, and shalt deliver his soul from hell."

Proverbs 29:15. "The rod of reproof gives wisdom; but a child left to himself bringeth his mother to shame."

The industrial revolution resulted in a different kind of abuse.

> The unwanted property/child was put to work under terrible circumstances. He was scarcely treated better when he had been deliberately crippled for the sake of being a better beggar. . . . He and his brothers and sisters were little more than babies. They worked long hours; they were chained to their posts; they were permitted to eat but little; and they were urged on to further effort by the blows of their overseers. (Fontana, 1973, p. 6)

Bakan (1971) reported that "many succumbed to occupational diseases, and some committed suicide; few survived for any length of time" (p. 48). Fraser (1974) graphically described the working conditions of the time.

> In the course of their labors some fell down elevator shafts, burned to death, were mangled by machinery, worked standing in several inches of water, delivered messages to houses of prostitution, stood on their feet for twelve hours a day, sold newspapers at two o'clock in the morning, or froze to death in delivery wagons. (p. 12)

The attitude of the times was reflected by the New York State School superintendent. He was quoted by Fraser (1974) as saying, "There are worse calamaties that may befall the children of the poor than being put at regular employment" (p. 28).

As Giovannoni (1971) observed:

> In the early 1800's there were no "abused" or "neglected" children. There were only poor children. There were only those whose parents could not feed them, cloth them, and house them. The societal provision for their care and disposition was not different from that for poor adults. (p. 651)

Compulsory education laws and rising public sentiment against child labor resulted in social conditions wherein children were not able to work in factories as before. The result was an epidemic of child abandonment. "Children were literally being found in the streets after having been left bundled on door steps or thrown into gutters or tossed into trash cans. While they were not all dead, the intent was obvious" (Fontana, 1973, p. 7). In 1892 the bodies of 100 children were found in the streets of New York (Van Stolk, 1972, p. 106).

The Mary Ellen case of 1874 has been recognized as the first legal challenge to the absolute rights of parents over children in this country. The case also resulted in the founding of the Society for the Prevention of Cruelty to Children (SPCC). A church worker visiting a tenement in New York City learned of a little girl who was being beaten daily and was also seriously malnourished and neglected. After appeals to legal authorities proved useless, the woman contacted the Society for the Prevention of Cruelty to Animals (SPCA). The child was successfully removed from the home on the basis that a child as a member of the animal kingdom "was entitled to at least the same justice as a common cur on the street" (Bremmer, 1971, Vol. II, p. 185). Through subsequent efforts by the SPCC, the rights of children were recognized by legal authorities and the idea that the law should protect neglected and abused children evolved. Despite increased legislative efforts, violence against children has continued. As reported by Gil (1971):

> Physical abuse of children is actually endemic in American society, since the cultural definition of child rearing in the United States does not exclude the use of physical force toward children and other caretakers. . . . Adult persons have legal protection against physical attack by other persons. Children are not assured such protection. (pp. 390-391)

Fontana (1973) stated that the use of physical force against children was due to "the age-old concept that the child is the parent's property to do with as he pleases" (p. 39). Dr. John P. Spiegel, Director of the Lemberg Center for the Study of Violence at Brandeis

University, stated that "violence is a cultural style" (Fontana, 1973, p. 79). Van Stolk (1972) commented: Mistreatment of children is not a necessity resulting from our history. Rather it reflects a continuation of our ignorance and our political, and hence, legislative impotency in the face of old customs and traditions" (p. 106).

Steele (1970) in an extensive analysis of violence in American society discussed the fact that violence has been very much a part of the cultural heritage which "not only gives us permission to be violent, but gives us great approval for violence in certain directions" (p. 48).

The modern period of child abuse can be marked by the coming age of medical science. Nomura (1966) reported: "Over the last half-century sporadic reports have appeared describing curious skeletal lesions in children, the etiology of which remained obscure; many disease processes were postulated but none confirmed" (p. 387). In 1860 Ambroise Tardieu, a professor of legal medicine at the University of Paris, published an article on the abuse and maltreatment of children by parents and caretakers. His descriptions of demographic, social, psychiatric, and medical features were identical to those described in present-day articles (Silverman, 1972, p. 350). In 1888 a Dr. West described periosteal swelling in infants which improved spontaneously and could not be linked to any known disease (Guandolo, Silver, Barton, Murphy, Rubin, & Avery, 1967, p. 140). In 1889 a peculiar malady called celiac disease characterized by malnutrition, distended abdomen, and abnormal stools was described by a physician named Gee. The fact that these symptoms were often the result of trauma was not recognized until much later (Kunstadter, Singer, and Steinberg, 1967).

The advent of X-ray as a medical diagnostic tool was to have a great impact on the identification of injuries. Fontana (1973) reported that at the turn of the century, X-rays of children had begun to reveal types of fractures and lesions which could not be explained in light of medical histories. Sherwood (1930) and Ingraham and Heyl (1939) studied subdural hematomas in children. Although they determined these injuries to be caused by trauma, they were considered to be of mysterious origin. Caffey has been credited with the recognition that subdural hematomas are frequently found in association with fractures of the long bones in infants (Silverman, 1972). Caffey (1946) summarized his findings, however, by stating: "Fractures of the long bones are a common complication of infantile subdural hematome. The fractures appear to be of traumatic origin, but the traumatic episodes and the causal mechanism remain obscure" (p. 173).

It was not until 1953 that parents were cited in the medical literature as a specific cause of injuries to children (Silverman, 1953). Later others followed (Fisher, 1958; Miller, 1959; Woolley & Evans, 1955) in identifying parents as causal agents of injuries to children. As late as 1957, however, Jones and Davis described the injuries of obviously abused children without naming the parents as the cause. It was not until 1961, however, that the problem received widespread attention. Six physicians, in a presentation to the Children's Bureau of the Department of Health, Education, and Welfare, used the term "battered child syndrome" (Kempe, Silverman, Steele, Brandt, Droegemuller, & Silver, 1962). Later Kempe and Silver (1972) reflected:

> Knowing that pediatricians had for years been complacent about the problem of child abuse, it was felt that something had to be done to gain their attention and increase their desire to do something about the problem. The term "battered child" was adopted to make an impact upon pediatricians and shake society loose from its complacent attitude. (p. xi)

One major outcome of efforts to "dramatize" the problem was model child abuse legislation. The Children's Bureau proposed laws which by 1967 had been enacted in all 50 states (Gil and Noble, 1967). Then in 1973 the Child Abuse Prevention and Treatment Act was passed (S. 1191, 93rd Congress, 1st Session). This Act provided financing for prevention and treatment programs.

Despite the recent growth of concern and effort in the field of child abuse, there is no evidence that injuries are becoming less common. Indeed, as stated by Bloch (1973):

> The promised "century of the child" is not yet in view, nor has the vigorous role of society in preventing its arrival been adequately explored. . . . Mankind has become conditioned to mass brutality, and its child victims stir scant notice. Only through the resolute, organized, compelling, and aroused action of society on the State can cruelty to children and its multifarious causes be eliminated. (p. 801)

When viewed in an historical perspective, child abuse has been shown to exist in many forms and degrees of severity. As noted by Hopper (1975), "the fact that society has recognized that the horrors of child abuse are widespread in its culture, represents a giant stride toward eradication" (p. 3).

Incidence of Abuse

The actual incidence of child abuse is not known. There is wide disagreement as to the number of children who are abused each year in the United States. One author (Gil, 1969) stated that less than 7,000 cases occurred, while Light (1973) postulated a figure of 1,175,000. Vincent DeFrancis of the Children's Division of the American Humane Association estimated that 10,000 children are severely battered; 50,000 to 75,000 are sexually abused; 100,000 are emotionally neglected; and 100,000 are physically, morally, and educationally neglected (Fontana, 1973, p. 38). Two major factors for the wide discrepancies in incidence have been identified: the lack of a commonly accepted criteria and underreporting.

Kempe and Helfer (1972, p. xi) stated that the lack of a suitable definition was a primary source of confusion, misunderstanding, and limited communication among investigators of child abuse. Others (Burland, Andrews, and Headsten, 1973; Gil, 1970) have stated that at the present time child abuse has not been adequately defined. The resulting problems were discussed by Zalba (1971):

> To begin with, it is often difficult for agents of societal institutions--physicians, nurses, social workers, teachers, police, prosecutors, judges--as well as concerned relatives and neighbors--to decide when the line has been crossed between severe punishment and physical assault or abuse, even though the polar extremes are fairly clear. (p. 58)

Some authors (Paulson and Blake, 1969) have stated that neglected children should not be considered as abused even though neglect may result in permanent physical damage. Kempe and Helfer (1972) have postulated that children who are injured by neglect should be included in the definition of the abused child. Their definition, thus, is inclusive of injuries resulting from physical aggression or neglect. Thus, a battered child is "any child who received non-accidental physical injury (or injuries) as a result of acts (or omissions) on the part of his parents or guardians" (p. xi).

Another definitional problem has been whether or not to include emotional abuse. Elmer (1963) stated:

> The investigator who wishes to study the problem of child abuse finds that the definition of abuse is by no means clear and commands no consensus. . . . Some claim that physical abuse is the only variety worth concern; others believe that, in the long run, emotional trauma can be fully as damaging to the child. (p. 28)

At the present time there is still some disagreement whether or not to classify those who are psychologically abused as abused children. Light (1973) attempted to address this problem when he noted that when neglect and sexual molestation are included in the incidence figures, the total number of cases rises sharply.

Thus, the lack of commonly accepted definition has, in the past, been a significant factor contributing to wide variability in the reported incidence of child abuse. Fraser (1974), a staff attorney for the National Center for the Prevention and Treatment of Child Abuse and Neglect, recently commented that every state has defined child abuse differently in some respect (p. 12).

Another factor which has reportedly resulted in inaccurate incidence statistics is underreporting by medical personnel (Fairburn & Hunt, 1964). LeBourdais (1972) quoted a child welfare worker who stated that "hospital staff are reluctant to become involved in such 'nasty' matters" (p. 27). Physicians who, by the nature of their role, are exposed to cases of abuse frequently do not report them. Kempe, Silverman, Steele, Droegemueller, and Silver (1962) stated that:

> Physicians have great difficulty both in believing that parents could have attacked their children and in undertaking the essential questioning of parents on this subject. Many physicians find it hard to believe that an attack could have occurred, and they attempt to obliterate such suspicions from their minds, even in the face of obvious circumstantial evidence. (p. 107)

Silver, Dublin, and Lourie (1969) and Paulson and Blake (1969) noted that physicians often have a difficult time accepting the reality of abuse. They also cited the definitional problem and the fact that many physicians are concerned about the effect that reporting would have on their practice. Nurse (1964) observed that the physician is in a difficult position "when he must charge a patient for X-rays which may be used as evidence against him" (p. 13). And as reported by Fontana (1973), "there are also physicians who have not reported such cases, since they have feared involvement in court action or legal entanglements which could even lead to suits of malpractice" (p. 5). He, further, cited a study by the Massachusetts Society for the Prevention of Cruelty to Children which showed that of over 200 referrals, only 9% had been referred by hospitals and doctors.

The importance of adequate physician reporting was noted by Helfer and Pollack (1968). They stated that if abused children were not reported to the authorities, 25% to 50% would be permanently injured or crippled. Helfer and Kempe (1972) described the role of the physician:

> The diagnosis of child abuse must be seriously considered in every child who presents an injury. The physician should carefully explore the explanation for the injury provided by the parents and make absolutely certain that

> the degree and type of injury can be adequately explained, and any inconsistency between the history and physical findings must be diagnosed as a suspected case of child abuse. (p. 72)

Underreporting was discussed by Nomura (1966): "For every documented case of child abuse which comes to the attention of physicians, police, and newspapers, there are countless others which remain unsuspected or undocumented" (p. 388). Underreporting by private physicians has been underscored by several studies. In New York the first year following the passage of mandatory reporting legislation, 79% of the cases reported came from hospitals. In Illinois only, 51 of 363 cases were reported by private physicians (Wolff, 1966, p. 85). Evidence which has been used to dramatize low reporting rates has resulted in an increase in the number of cases brought to the attention of authorities in areas where child abuse has been publicized. In Idaho, the number of cases increased 500% in one year following a public education campaign (Mohler, 1975). In Florida, a telephone hotline was set up to receive reports of abuse; in approximately a year and a half 30,000 calls were received of which 50% were confirmed as abuse cases. Prior to that only 1,000 to 2,000 reports were received annually (Nazzaro, 1974). Murdock (1970) described a program in Syracuse, New York, wherein schools were provided with reporting forms and became the greatest single source of referrals in that city. In New York City, the number of cases jumped from 700 to 800 to over 2,700 following a series of "sensational" articles in one of the daily newspapers (Kempe and Helfer, 1972, p. xiii).

Types of Injuries

The types of injuries inflicted upon children are many and varied. Bakan (1971) reported:

> Children have been whipped, beaten, starved, drowned, smashed against walls and floors, held in ice water baths, exposed to extremes of outdoor temperatures, burned with hot irons and steam pipes. Children have been tied and kept in upright positions for long periods. They have been systematically exposed to electric shock; forced to swallow pepper, soil, feces, urine, vinegar, alcohol, and other odious materials; buried alive; had scalding water poured over their genitals; had their limbs held in open fire; placed in roadways where automobiles would run over them, placed on roofs and fire escapes in such a manner as to fall off; bitten, knifed, and shot; had their eyes gouged out. (p. 4)

Despite the fact that the possible types of injuries resulting from abuse are extremely varied, physicians and others have attempted to describe the types of injuries commonly resulting from maltreatment. Fontana (1973) described the abused child as having

> a history of failure to thrive: malnutrition, anemia, poor skin hygiene, irritability, a repressed personality and other obvious signs of obvious neglect. The more severely abused children are seen in emergency rooms of hospitals with external evidences of body trauma: bruises, abrasions, cuts, lacerations, burns, soft tissue swelling and hematomas. (p. 11)

Sussman (1968) studied skin lesions in a sample of 11 abused children. He stated: "In the diagnosis of the battered child syndrome, most authors have discussed intercranial trauma and bone changes in great detail, but the skin lesions have received only passing comments" (p. 99). In this study he indicated that lesions are typically clustered on the trunk and buttocks and are frequently associated with abrasions and scratches. Silverman (1972) described types of skin injuries often associated with abuse: "The patterns of coathangers, electric cords, belts, whips, and even the open hand can be recognized in many of the cutaneous lesions" (p. 341). Finkberg (1965) offered a scheme of classification of types of injury which focused on the methods employed by the abuser.

> *Direct physical abuse* - the battered child.
> *Undernutrition* - caused by parents or insufficiently supervised foster parents.
> *Malnutrition* - (e.g., omission of vitamins or other nutrients) or systematic poisoning by a parent who is mentally ill.
> *Refusal to accept necessary medical advice* - for reasons of suspicion, penuriousness, or religion.
> *Neglect of "child care"* - leading to accidental ingestion of poisons.
> *Self-induced abortions or general personal health abuse* - on the part of pregnant women resulting in prematurely born infants, many of whom become defective wards of the state. (p. 42)

In other studies, injury data has been specifically documented (Greengard, 1964; Ireland, 1966; Johnson & Morse, 1968; Morse, Sahler, & Friedman, 1970; O'Neill, Meacham, Griffin, & Sawyers, 1973). It is difficult, however, to interpret their findings as the categories of injuries are not the same in each article. Some were more specific than others. O'Neill et al. (1973) classified visceral injuries into seven subcategories, while Scott (1973) used the more general label "intra-abdominal injury." In a research study designed to provide a common basis for categorizing the abused child, Kline and Hopper (1975)[1] proposed that the following categories of injuries be used: "Neglectful injuries, poisoning, bruises-welts-scars, burns, central nervous system damage, bone injuries, and visceral abdominal injuries" (p. 21). Using these categories the injury data from five studies are presented in Table 1.

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[1] Utah State University, Final Report: The Concept Analysis of the Abused Child, Logan, Utah, 1975.

Table 1

Summary of Injury Data in Abused Child Samples

Study	Total N	Total number of injuries described	Number of injuries by category						
			Neglectful	Poisoning	Bruises welts scars	Central nervous system	Bone	Visceral abdominal	Burns
Greengard (1964)	34	47	0	0	14	7	14	1	11
Ireland (1966)	363	188	47	0	60	0	48	0	33
Johnson & Morse (1968)	101	102	1	0	68	8	19	0	6
Morse, Sahler & Friedman (1970)	21	24	1	0	4	5	10	1	3
O'Neill, Meacham, Griffin, & Sawyers (1973)	110	169	37	0	49	18	28	9	28
			16.22		36.79	7.17	22.45	2.08	15.28

As can be seen, bruises, welts, and scars are the most frequent injury in three of the five studies cited, while poisoning was not documented in even a single instance. These findings correspond highly to injury data presented by Johnson and Morse (1968); they found 68 of 100 children with bruises and welts. When the data in Table 1 are combined, the following incidence statistics are obtained: Bruises-welts-scars were found in 37% of the 530 injuries described in the studies; bone injuries in 22%; neglectful injuries in 16%; burns in 15%; central nervous system injuries in 7%; and visceral abdominal injuries were present in 2% of the injuries reported. However, the study with the largest number of subjects did not report any visceral, abdominal, or the number of injuries resulting from poisoning. Incidence figures are, thus, difficult to interpret due to the different schemes used to classify abuse.

The largest number of the studies reviewed were those describing injury data for one or a small group of abused children. These data are presented in Table 2.

These studies were selected from the extant literature because they provided specific descriptions of injuries. Other individual case studies were not presented because these descriptions were lacking. For example, Harcourt and Hopkins (1971) described 11 subjects who had ocular injuries as a result of abuse. The other injury categories presented by them were: soft tissue, skull fracture, and bone injuries. From such a description of injuries, it was not possible to classify them into the selected categories.

Analysis of the data in Table 2 was accomplished by summing the total number of injuries in each category and determining the

Table 2

Summary of Selected Individual Case Studies Injury Data

Study	N	Injury categories						
		Neglectful	Poisoning	Bruises welts scars	Central nervous system	Bone injuries	Visceral abdominal injuries	Burns
Ott (1974)	2	1	0	1	1	1	0	0
Sanders (1971)	4	0	0	1	2	0	1	0
Gould & Matthews	5	3	0	1	2	1	1	1
Bakwin (1956)	3	1	0	1	0	3	0	0
Baron, Bejar & Sheaff (1969)	1	0	0	0	0	1	0	0
Schwartz, Snider, & Schwartz (1967)	1	1	0	0	0	0	0	0
Gwinn, Lewin, & Peterson (1961)	1	0	0	1	1	0	0	0
Sims, Grant, & Cameron	3	0	0	3	1	0	0	0
Fairburn & Hunt (1964)	7	1	0	3	2	6	0	0
Eisenstein, Delta, & Clifford (1965)	1	0	0	0	0	0	0	0
Fontana (1964)	2	1	0	1	0	1	0	0

percentage of occurrence for each injury. As in the studies of larger groups (see p. 26), bruises, welts, and scars (27%) and bone injuries (29%) were the most frequently reported categories. Neglectful injuries were next with 18%. The only major difference in injury patterns seems to be that the individual case studies (Table 2) report visceral injuries as occurring more frequently than burns, while the analysis of samples (Table 1) indicates that burns occur more frequently than visceral injuries.

The foregoing presentation of injury patterns as they have been described in the literature indicates some general agreement as to the relative frequency of types of injuries. Furthermore, these data would seem to be the logical result of beatings, hitting with a fist, or battering which were the most frequently used methods of injuring children as reported by Paulson and Blake (1969).

Types of Abuse Resulting in Death

Fatal injuries to children which result from physical abuse are all too common. Fontana (1973) cites abuse as "the greatest crippler and killer of our children" (p. xvi). Elmer and Gregg (1967) studied sequelae to abuse in 50 children and found that 8 had subsequently been killed. In 1962, Kempe et al. conducted a follow-up study of 749 abused children and found that 78 were deceased. Scholoesser (1964) surveyed Kansas physicians and found that 14 of 85 abuse cases were reported as fatal. Greengard (1964) reported that 6 out of 34 abused children treated at one hospital were later killed by their caretakers. Estimates of the mortality rate have varied between 11% and 27% (Elmer & Gregg, 1967; Kempe et al., 1962).

Injury patterns in fatal abuse cases were investigated by Scott (1973). Of 29 cases sampled, 17 died from intracranial injuries, 10 from intra-abdominal injuries, 1 from asphyxia, and 1 from complications following fractured ribs. Sims and Grant (1973) presented three cases where biting was a significant factor causing death. Nutritional battering has also been frequently reported as a cause of death (Donnan & Duckworth, 1972; Ott, 1964). Burns have been reported as fatal in 4 of 19 cases of thermally traumatized children (Gillespie, 1965). One author (Adelson, 1964) even reported a fatal case where a child was forced to ingest black pepper. Touloukian (1968) described five cases where visceral injuries resulted in death. Visceral injuries have been cited as being the most frequent type of injury resulting in death; O'Neill, Meacham, Griffin, and Sawyers (1973) reported a 50% mortality rate for such children. A similar mortality rate has also been reported by McCort and Vaudage (1964) and Touloukian (1968). As can be seen by the examples cited, abused children are fatally injured by a variety of means. Indeed, as noted in an editorial in the *Journal of the American Medical Association,*

> it is likely that it will be found to be a more frequent cause of death than such well-recognized and thoroughly studied diseases as leukemia, cystic fibrosis, and muscular distrophy, and it may well rank with automobile accidents and the toxic and infectious incephalides as causes of acquired disturbances of the central nervous system. (Fontana, 1973, p. 19)

Types of Injuries: Summary

The review of the literature concerned with types of injuries should be interpreted with some caution since no studies could be found which utilized sampling techniques to obtain a representative study group. The studies cited, however, probably represent typical populations of severely abused cases as seen by medical personnel. An analysis of the data seems to show that certain injuries (i.e., bruises, welts, and scars, and bone injuries) occur with the greatest frequency; abuse by poison and burning seems to occur the least of all types of injury.

Literature reporting fatal cases does not conclusively indicate that one type of injury occurs more frequently than any other. The number of articles is, however, few and those providing specific descriptions of injuries are individual case studies utilizing single subjects or a small N.

Demographic Characteristics of Abused Children

Some attempts have been made to identify and describe the demographic characteristics of abused children. O'Neill, Meacham, Griffin, and Sawyers (1973) found that the majority of the 110 children in their study were under two years of age. Johnson and Morse (1968) found that 50% of their sample of 101 children were under the age of three. Others (Kempe et al., 1962; Gil, 1971) have stated that the majority of the cases have been preschoolers. Some patterns of sex distribution have been noted. Gil (1971) found that boys were abused more frequently for every age group under the age of 12. Among teenagers, however, the girls outnumbered boys. In 1962, the Children's Bureau initiated a project to obtain data on child abuse cases reported in the newspapers. Of 662 reports, 90% were below the age of 10. More than half were under the age of four (Paulsen and Blake, 1969).

Some reasons have been given for the very young child's vulnerability to abuse. The young child is physically less able to absorb physical punishment without severe physical injury (Gelles, 1973). A newborn child may create economic hardship for the family. Gil (1971) found that economic hardship was a factor in over half of the cases he studied.

Klein and Stern (1971) reported that among 51 cases of child abuse, 23.5% were low birth-weight infants. They concluded that low birth weight was a significant factor associated with abuse. They cautioned, however, that low birth weights were also associated with mental retardation and other medical conditions and the fact that low birth weight often resulted in enforced maternal-child isolation. It was thus possible that one or more of these factors were more significant to battering than low birth weight. Simons, Downs, Hurster, and Archer (1966) also found low birth weight to be more frequent among abused children. Of 133 abused children, 20% were below 5½ pounds--a percentage approximately twice that of the average in New York City where the survey was taken. Elmer and Gregg (1967) also found a high proportion of low birth weight among a small sample--7 of 21 were below average at birth.

Demographic Characteristics of Abusers

Some attempts have been made to associate child abuse with demographic variables. Certain variables have been found to occur at a high rate among child abusers. However, interpretation of these data is difficult because of the low reporting rate. Simons, Downs, Hurster, and Archer (1966) commented: "As long as the number and characteristics of this unreported group are not known, the true picture of child abuse, its nature and extent, will remain incomplete" (p. 2788).

Sex of Abuser

In a study by Simons et al. (1966), mothers were perpetrators in 29% of the cases and the fathers in 19%. Other caretakers and siblings were responsible for 13% and the abuser was not identified in 34% of the cases. Gil (1970) reported the mother as the attacking parent in 50 of 60 cases. However, in cases where the caretaker role was reversed and the mother worked outside the home, the father attacked more often than the mother. Hall (1967) quoted two studies--one which stated that fathers are responsible for more abuse than mothers and another which stated that mothers are responsible for more abuse than fathers. Then in a study of 60 abused children, Zuckerman, Ambuel, and Bandman (1972) found that "the person responsible for the abuse was the father 25 per cent, mother 25 per cent." Clearly, there are conflicting reports as to the sex of the abuser. Research findings are so diverse that no conclusion can presently be made regarding incidence.

Socioeconomic and Cultural Variables in Abusing Families

Some studies have shown a high incidence of abuse among low-income families. Simons et al. (1966) reported that 47.1% of 293 abusing families were receiving welfare payments. Young (1969) collected data on 300 abusive families; of these, 40% had at one time been on welfare, 70% of the wage earners were unskilled workers, and only 10% could be regarded as financially "comfortable." Of 85 families studied by Johnson and Morse (1968), one-third were receiving public assistance and only one-half of the fathers were working. A high proportion of welfare recipients in abusive families was also noted by Galdston (1971). He reported that 17 of 23 families were receiving welfare. He concluded: "Thus they are families having trouble supporting themselves" (p. 342). Although some authors have stated that abuse occurs in all socioeconomic classes (Fontana, 1973; Van Stolk, 1973), no studies could be found in which a high proportion of the upper-socioeconomic classes was found to be abusers. Sociologist Serapio R. Zalba, however, provided an alternative explanation for the over-representation of the lower socioeconomic classes in abused samples: "Lower class parents find that their misconduct is everyone's business. More educated upper-class parents are less visible. They do have the means, and they use the means to conceal their actions" (Fontana, 1973, p. 60). Spinetta and Rigler (1972) cautioned against interpreting the relationship between poverty and abuse as cause and effect, as "the great majority of deprived families do not abuse their children" (p. 297).

Holter and Friedman (1968) studied abusing families and concluded that these families had few roots or organizational ties within their communities. Gil (1971) and Spinetta and Rigler (1972) have also cited the lack of community involvement of abusing families. Elmer (1967) and Young (1964) cited the following factors as being related to abuse: economic stress, lack of family roots, lack of support from extended families, and social isolation.

Kempe and Helfer (1972) found a high incidence of divorce and separation among abusive families. In Young's (1969) study of 300 families, only 65% were intact. Galdston (1971) found that 74% of 23 abusing families were intact. Several others (Gil, 1971; Johnson & Morse, 1968) have stated that abusing families frequently are experiencing severe marital conflict.

There are some data to suggest that the incidence of abuse is higher among some racial groups. Galdston (1971) found that of 42 children, 21 were white, 20 were black, and 1 was mixed. Stone, Rinaldo, Humphry, and Brown (1962) reported the racial breakdown of 293 abused children: 62 were white, 144 non-white, 77 Puerto Rican, and 10 were unknown. In Elmer and Gregg's study (1967), 27% of the abused children were black. They, however, qualified these findings by pointing out that the sample was drawn primarily from the area surrounding the hospital--an area which contained a large black population. Scholoesser (1964), in a sample of 85 abused children, found that 68 were white, 4 were black, 3 were oriental, and 10 were not known. Of 34 abuse cases at Cook County Hospital in 1963, 28 were black and 6 were white (Greengard, 1964). A high proportion of blacks was also present in a small sample of abused children studied by Sussman (1968). Komisarik's (1966) study indicated that 26 of 47 families were black. Gil (1972) found that the reporting rate for non-white children was 21.0 per 100,000 and only 6.7 per 100,000 for white children. He attributed this difference to reporting bias, poverty, and poverty-related social and psychological deviance, and the higher rate of fatherless homes and large families among the non-white population (p. 640). The extant literature, thus, shows that blacks are overrepresented in populations of abused children. These findings, however, must be interpreted in light of the fact that reporting rates may be higher among certain socioeconomic groups. Also, as no random selection procedures were reported in any of the studies, there is no way of determining whether or not existing samples are representative of the total abused population.

Other variables have been postulated. Kempe et al. (1962) claimed that abuse is more common in families where the children are born in quick succession, and Young (1969) found that of 300 abused children, 80% were from families of three or more and 33% of six or more children.

The age of abusers has also been investigated. Van Stolk (1973) reported that the average age for fathers is approximately 30; the average age of the mother is 26. Others (Holter & Friedman, 1968) reported a slightly younger average--mothers were 23 and fathers were 25.

The demographic characteristics of abused children, abusing parents, and other variables have been presented. Analyses of these data are difficult due to several factors. The first is inadequate subject selection techniques--there was no way of determining whether or not the samples were representative. The number of subjects in the studies cited was generally few--several were less than 50. A major overriding factor discussed was the problem that reporting rates are not known. A final problem is that other variables (e.g., age of abusers, number of siblings, low birth weight, etc.) have not been investigated by a large number of studies. Interpretation of the literature in which demographic variables are presented is, thus, difficult.

Psychological Variables

During the past few years extensive efforts have been made to find psychological explanations for abuse. Attempts have been made to identify common traits in the abuser as well as the child who has been maltreated.

Psychological Characteristics of Abusers

Some studies of those who abuse children have tended to show that some form of mental illness is often present. Sussman (1968) stated that mental disease, chronic brain syndrome, paranoid schizophrenic, neurotic tendencies, and extreme immaturity were found in 9 of 21 abusive families. Delsordo (1963), however, only found 4 cases of mental illness among 80 cases. In a small sample of four cases, Cohen, Raphling, and Green (1968) reported that each family was impulsive, immature, and burdened with emotional problems. In a study by Johnson and Morse (1968), 35% were disturbed. Komisaruk (1966) found that in 8 of 47 abusive families, the mother was emotionally disturbed. One or both parents had been referred for psychiatric cases in half of the 18 families studied by Holter and Friedman (1968). As can be seen in the studies reporting the frequency of emotional disturbance, there is a wide variation in the findings (3.2% to 100%).

The types of pathology associated with abuse have been investigated by a number of studies. Reinhart and Elmer (1964) stated that "it seems safe to venture that every abused child represents an accumulation of acute psychological and social problems" (p. 36). They further noted that abusive parents had a tendency to translate affect states into activity without the intervention of conscious thought and the presence of intolerable self-hatred. Young (1967) reported that such parents had a perverse fascination with the punishment of children. Fulk (1964) stated that abusers may possess strong aggressive tendencies, impulsive behaviors, and inadequate mechanisms for controlling impulsive behavior. Gelles (1973) analyzed the literature which described the traits of abusers. He noted that "of nineteen traits listed by the authors, there was agreement by two or more authors on only four traits. Each remaining trait was mentioned by a single author. Thus, there is little agreement as to the make-up of the psychopathy" (p. 614).

Analysis of the extant literature must also be made in light of several methodological problems. The sampling procedures used in the studies did not utilize adequate techniques to obtain representative samples--in not one case was random sampling reported. Another problem has been that all studies study psychological characteristics *ex post facto*--after the abuse incident. There are no studies which identify a particular trait and then determine the frequency of abuse among the members of such a group. Giovannoni (1971) addressed the problem that the evidence of a direct link between psychological disorders and abuse is not conclusive. He suggested that a more basic relationship existed between poverty and abuse (p. 651). One researcher (Steele, 1968) refuted this idea, stating that social, economic, and demographic factors are not related to the actual incidence of abuse.

The analysis of the literature concerned with psychological characteristics of abusers has shown that some researchers have postulated an association between abuse and mental disorders. However, the wide variability in the reported incidence, lack of random subject selection, and inadequate methodology preclude an accurate analysis of the evidence.

Psychological Characteristics of Abused Children

The psychological functioning of abused children has been assessed by reporting observed behavioral traits and social behavior patterns. Some authors have suggested that some children are predisposed towards abuse. Milowe and Lourie (1964) suggested that children contribute to the abuse through their defects. Some such defects have been identified; Morris, Gould, and Matthews (1964) have stated that children with toilet training problems are likely to be associated with abuse. Terr (1970) cited hostility and retaliatory behaviors in children as being causes of abuse. Bain, Milowe, Wenger, and Fairchild (1965) noted that some children are more likely to trigger violence than others. These children are those who "react particularly excessively to any kinds of input--noise or handling" (p. 752). Fontana (1973) postulated that abused children are often difficult children who have minimal cerebral dysfunction. He stated: "I believe that one cannot easily discount the possibility that such youngsters, in some fashion, exert a provocative effect upon an unstable, emotionally labile parent, precipitating a violent assault" (p. 139). Reed, Melli, Wald, and Wesenberg (1972) described the abused child as having frequent temper tantrums, hyperactive, listless, or uncontrollable. In an analysis of a particular case of abuse, Burland, Andrews, and Headsten (1973) concluded that the abuse probably resulted from a "bossy" streak in a child. Again, the importance of such traits as factors of abuse is not known because none of the studies utilized random sampling procedures. Also, there is no agreement among the studies reviewed as to what characteristics are likely to make a child more abuse prone. An example of this lack of agreement is shown by the following contrasting statements. Gil (1971) reported relatively high rates of deviance in "bio-psychosocial functioning of abuse, among over 1,200 cases; while Bryant et al. (1963) reported that of 200 cases, the majority "were not unusual in terms of mental deficiency, physical disability, or psychosis" (p. 128). While there is little agreement as to the specific traits which may contribute to the likelihood of abuse, there is a high degree of consensus that abused children frequently suffer impaired affective and social behaviors. Lebourdias (1972) and Morris, Gould, and Matthews (1964) have stated that abused children are wary of physical contact, cry very little, and are constantly on the alert for danger. Malone (1966) also identified danger orientation characterized by distrustfulness, tension, and guardedness as a frequently observed trait. Terr (1970) noted that withdrawal and indifference are frequently observed in abused children. Daly (1969) observed that abused children are frequently depressed and passive. Ten Broeck (1974) described abused children treated at a specialized clinic and found that the behavior of abused children is often in opposite categories--either very withdrawn or overactive. Bryant et al. (1963) postulated that such deviant behaviors are the result of abuse. There is no data-based evidence available, however, showing a clear cause-and-effect relationship between abuse and psychological-behavioral problems. Indeed, as cited above, certain problems may cause abuse and other problems may result from physical abuse. The fact that there is agreement among the authors that abused children are frequently disturbed seems to indicate that a correlation is likely to exist.

Sequelae to Abuse

Only a small proportion of the studies of abused children is concerned with problems beyond the immediate physical effects of the injuries. Of the 415 articles reviewed by one abused child research project (Kline and Hopper, 1975), only a small number were addressed to determining the incidence of handicapping conditions following physical trauma. As stated by Martin (1972), "the morbidity of the syndrome is just beginning to be studied. We know that many children die. We now see that even larger numbers of children will be retarded, brain damaged, undernourished, and emotionally crippled" (pp. 111-112).

The frequency that emotional problems are found in follow-up studies of abused children varies widely. In another study, Morse, Sahler, and Friedman (1970) reported that 29% were emotionally disturbed; while McRae, Ferguson, and Lederman (1973) identified 9% as having emotional problems. The incidence of emotional disturbance among the general population is difficult to determine. Hewett (1968) stated that more than 10% are disturbed, while a 4-7% figure was postulated by White and Harris (1961). But, as noted by Kirk (1972), "a prevalence figure depends on the definition and degree of behavioral disorders an investigator establishes" (p. 401).

Retardation was the most frequently reported variable. In six studies (Elmer, 1963; Elmer & Gregg, 1967; Gil, 1970; McRae, Ferguson, & Lederman, 1973; Martin, 1972; Morse, Sahler, & Friedman, 1970), the reported incidence ranged from 13% to 71%. The expected frequency of retardation in the normal population is 2.5% (Telford & Sawrey, 1972). Standardized I.Q. tests were used in each study to identify retarded subjects; the use of a single I.Q. test as the sole criterion for determining retardation has been questioned (Smith, 1969).

The incidence of permanent neurological damage was reported in four studies. Kempe et al. (1962) found that 15.2% of 749 abused children suffered permanent brain damage; while in another study (Martin, 1972), 43% of 42 abused children showed evidence of neurological defects. Elmer (1963) studied 50 abused children and reported that 4% were neurologically damaged. It should be noted, however, that her sample was comprised only of bone injured children. McRae et al. (1973) reported a 9% incidence in 34 abused subjects. A major problem in determining the incidence of neurological damage in the normal population has been the fact that brain damage may result in a wide variety of symptoms. As noted by Kirk (1972):

> The brain is the control center of the body. When something goes wrong with the brain, something happens to the physical, emotional, or mental functions of the organism. The number of things that can happen to the organism are probably as numerous as the nerves and cells of the brain. (p. 351)

The Bureau of Education for the Handicapped (1970) and other standard references did not list neurological impairment as a specific handicapping condition. Thus, the incidence of neurological damage has not been determined.

Table 3 summarizes existing research concerned with disabilities of abused children.

An evaluation of the existing research must include consideration of the following factors: the lack of criteria for subject selection; the lack of random subject selection; the variability of the reported findings; and the number of studies which have been published. The lack of common criteria for selecting abused subjects has been cited as one major deficit in existing research studies (Geiser, 1973). As noted by Elmer (1966), "the investigator who wishes to study the problem of child abuse finds that the definition of abuse is by no means clear and commands no consensus--even among knowledgeable professional persons" (p. 28). Kempe and Helfer (1972) noted that the lack of a suitable definition was a primary source of confusion, misunderstanding, and limited communication among investigators of child abuse (p. xii). This lack of criteria is a critical problem in research because there is no way of determining whether or not two samples of abused children are similar. The definitional problem has often been ignored in the literature. Many authors do not even provide a description of their subject selection criteria. In one study (Terr and Watson, 1968), juvenile court and department of pediatrics referrals served as the basis for subject selection--no injury data were given. No precise criteria were reported by Merrill (1962) in his study of 115 abusing families. Elmer (1963) selected subjects from the records of one hospital. The sample was limited to "50 former patients whose diagnosis included multiple bone injuries" (p. 180). In only one study (McRae, Ferguson, & Lederman, 1973) was the sample described by the authors as biased. Spinetta and

Table 3

Summary of Follow-Up Studies of Abused Children

Study	Population source	N	Variables assessed			
			Retardation	Emotional disturbance	Neurological damage	Other
Morse et al. (1970)	1 Hospital	21	9	6	N/A	N/A
Elmer (1963)	1 Hospital	50	4	N/A	2	Physical defect = 7
McRae et al. (1973)	1 Hospital	34	12	3	3	N/A
Martin (1972)	1 Child Dev. Center	42	14	N/A	18	Delayed speech = 16
Elmer & Gregg (1967)	1 Hospital	20	10	8	N/A	N/A
Kempe et al. (1962)	71 Hospitals	302	N/A[a]	N/A	85	Death = 33
Gil (1970)	Nation-wide survey	12,610	1,639	N/A	N/A	378 never attended school

[a] Not assessed.

Rigler (1972) addressed the problem when they stated: "In most studies in the area, the researchers used samples easily available from ready-at-hand local populations, and thus, the samples were not truly representative" (p. 297).

An additional criticism of existing research is the lack of random selection procedures. In only two of the studies in Table 3 (Gil, 1970; Kempe et al., 1962), were attempts made to select a random sample. In both cases, however, subject selection techniques were not clearly spelled out. Both studies used survey instruments and neither reported the percentage of their returns.

The wide variability in the findings is another confusing issue. The rate of reported emotional disturbance ranged from 9% to 40%, retardation from 13% to 71%, and neurological damage from 4% to 43%. There is clearly little agreement among the findings of the existing follow-up studies of abused children.

The present state of research addressed to the sequelae of abuse has been assessed. There is clearly a lack of research in the area. More specifically, educational handicaps have not been investigated in any of the studies reviewed. Whether or not type of injury is related to school placement of abused children is not known.

Summary

The review of related literature has attempted to show that (1) the phenomenon of abuse is rooted in the cultural heritage; (2) abuse is a significant social problem in terms of numbers of children affected; (3) the present state of knowledge, however, is limited by an assumed lack of reporting of many cases; (4) although a wide variety of injuries have been reported, some injury patterns are more prevalent than others; (5) demographic characteristics have been associated with abuse. These traits, however, are subject to interpretation as the current state of knowledge is somewhat limited. (6) Likewise, psychological factors have been identified which indicate that some personality factors seem to be more prevalent in abusive families. (7) A limited number of studies showed that abuse may frequently result in physical and psychological problems. (8) Interpretation and evaluation of existing follow-up studies is difficult as there was a lack of agreement among the reported findings.

CHAPTER III

PROCEDURES

In order to acquire and record pertinent data about child abuse and determine the degree to which educational and psychological handicaps were present in the abused population, the following procedures were described:

1. Subjects were identified from Utah State Juvenile Court computer records.

2. Specific abuse and demographic information was collected from the confidential files of the Division of Family Services.

3. Census data were obtained from the State Board of Education.

4. School districts were visited to obtain the required educational data.

5. The significance of the incidence of educational handicaps in the abused population was determined by comparing the abused population with the population not reported as abused.

6. The frequency of psychological handicaps was determined by tabulating the frequency of psychological problems in the abused population.

Subjects

The data for the study were drawn from the records of all children referred to the Juvenile Court for abuse in Salt Lake, Davis, Weber, and Utah counties during the past six years (January, 1968, through February, 1975). This four-county area contains over 90% of the population of the state of Utah. There is, however, wide variability in terms of such demographic variables as rural-urban population distribution, socioeconomic levels, and ethnic composition. Additionally, the majority of the reported cases of abuse in the state have originated in these four counties.*

The subject identification and selection process required that the following steps be taken:

1. An initial meeting was held with the juvenile court administrator and the director of research. The proposed research was described and the support of the administrative staff was obtained.

2. The director of research then attended a meeting of the juvenile court judges and obtained permission to gain access to the computerized records.

3. A computer program was then written to obtain the following information for each abused child: (a) name, (b) address, (c) current age, (d) race, and (e) sex. The computer output consisted of a list of subjects grouped by current age within each of the four counties.

4. The final step of the subject selection process was to select only those who were currently of school age. All who were below kindergarten age or over 18 were eliminated as potential subjects.

The resulting population consisted of 355 school-age children who had been identified by the juvenile court as being abused.

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*In 1974 over 91% of the reports originated in Utah, Davis, Weber, and Salt Lake Counties (Utah State Plan for Child Abuse and Neglect, March, 1975).

Abuse and Demographic Data

Specific abuse and demographic data collection procedures were as follows: (a) obtain permission from the Division of Family Services to examine confidential files, (b) design a data collection instrument, (c) train data collectors, (d) determine the accuracy of the data collection procedures, and (e) collect required data from the four regional centers.

Obtaining Access to Confidential Files

The Division of Family Services administration offices were visited and the goals and procedures of the proposed research project were presented. This was followed by a letter which detailed the procedures to be followed in the proposed study (see Appendix C). Permission to record data from the confidential files was granted on February 21, 1975 (see Appendix D for letter received from Lloyd Nelson, Deputy Director).

Data Collection Instrument

The second step was to design a data collection instrument (see Appendix E for a sample data instrument). This instrument consisted of a five-by-seven-inch card with holes punched around the perimeter. The following categories of data were represented by specified holes in the card:

1. Type of physical injury.
2. Type of neglectful injury.
3. Type of psychological injury.
4. School district in which the child was living.
5. Family status (i.e., adopted, foster home, etc.).

6. Educational placement.
7. Specialized services.
8. Institutional placement.
9. Sex.
10. Ethnic group.

If a subject was found to possess a particular trait, the hole which represented that trait was left intact and all other holes in that category were notched out. An example of this procedure follows: if the abused subject was white the researcher notched out the three other holes in the "ethnic group" category--black, Mexican American, and other. The result of this procedure would enable the researcher to select the white students from a stack of cards containing all ethnic groups by placing a wire into the appropriate hole and sliding the cards out. Similarly all subjects possessing a particular trait could be quickly identified. The data collection instrument also contained spaces for recording these data:

1. Name.
2. Birthdate, age.
3. Academic achievement.
4. I.Q.
5. Location and date of injury.
6. Family income.*
7. Name of school.
8. Address of school.

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*These data were not available in most case files. Analysis of income level was, therefore, not possible.

Accuracy of the Data Collection Procedures

At the beginning of the data collection process, the procedure was to have the data collectors read the confidential files and record the data on the cards. In order to insure that the data were accurate and complete, the following procedures were utilized:

1. A 15-item criteria form was devised (see Appendix F). Accuracy was determined by checking whether or not (a) data were missing or (b) data were incorrectly recorded on the card.

2. At the beginning of the data collection process three confidential folders were selected and each data collector read and recorded the data in each file.

3. Each card was then checked using the criteria form. The results are shown in Table 4. The most frequent type of error was omissions which accounted for all but one error, which was a misspelled name.

Table 4

Data Collector Accuracy

Data collector	Case number 1	2	3
A	86%	93%	80%
B	93%	66%	86%
C	86%	66%	80%
D	80%	80%	73%

4. Due to the large number of errors, a data collection checklist was devised (see Appendix G).

5. Three additional accuracy checks were made during the course of the data collection process. The results are recorded in Table 5.

Table 5

Data Collector Accuracy Following Adoption of Data Collection Checklist

Data collector	Accuracy check no. 2	3	4
A	93%	100%	100%
B	93%	100%	100%
C	100%	100%	100%
D	93	100%	100%

As can be seen, three data collectors omitted one item on accuracy check number 2. In each case the data of injury were not recorded. Accuracy in the remaining checks was 100%.

The reliability of the data contained in the records was considered to be an important issue. If, for example, the birthdate or name was incorrectly recorded by personnel employed by the Division of Family Services, the subject could not be located in the schools. In order to insure that the reliability of the data recorded by the Division of Family Services Personnel would not result in a loss of subjects, other data were collected. These were: (1) Social Security number, (2) last known address, and (3) names of the child's parents or foster parents. These data were used to check the reliability of the raw data. In two cases where the birthdates did not match, these data were used to verify the identity of the abused subject.

The reliability and accuracy of the education data could not be determined in all cases as some data were directly recorded by school personnel. In order to insure reliability and accuracy as far as possible, two data collectors were used to verify and gather education data.

Collection Procedures

As the computer record, in some cases, was six years old, a certain number of the potential subjects were expected to have moved out of the geographic area of the study. Also, not all subjects' records were found in alphabetical order in the files. A record might be found in a foster parent file under a different last name or in a file of a mother who had remarried. If a record could not be found in alphabetical order, all files listing the same last name were checked to see if the name could be found. The Division of Family Services computer was also used in an attempt to cross-reference names.

Description of the Data Collected

Of the original 355 school-age subjects identified by the Juvenile Court computer records, data were collected for 181. Subject attrition data are presented in Table 6.

Inspection of the contents of the files showed that in 24 cases abuse had not taken place. These cases had been incorrectly identified

Table 6

Subject Attrition

Reason for attrition	N
Incorrectly coded as abused	24
No data in confidential files	5
No files	126
Insufficient data	19
Total attrition	174

as abused by the Juvenile Court computer program. There were five files which contained no data. Nineteen files were found to contain insufficient or inconclusive data to determine whether or not abuse had occurred. One hundred and twenty-six files could not be found. Attempts were made to determine why there were no files listed for some subjects. According to the administrator in charge, if a case had received any services a file would have been opened. A check with the research director of the Juvenile Court revealed that had any legal action been taken, a file would have been opened. It was concluded that the cases for which no files were available were cases which were referred for possible action but were not bona fide cases of abuse. Abuse and demographic data were therefore recorded for a total of 181 subjects. There were 55 male and 83 female subjects. Some ethnic minority groups were also represented; five were Spanish American, one was Korean, and two were Puerto Rican. The remaining 130 subjects were identified as Caucasian.

In addition to physical injury descriptors, the Abused Child Concept Analysis Scheme (Kline and Hopper, 1975) lists psychological descriptors identified in the existing child abuse literature as indicative of emotional problems. Whenever a child was described in the confidential files as having psychological problems, the behaviors were listed on the data collection instrument. The result of this procedure was a list of behaviors and traits which typically are indicative of psychological problems.

Data were also collected on sexual abuse, which is not listed in the Abused Child Concept Analysis Scheme as a type of abuse. If a child was described by the confidential record as engaging in any form of sexual behavior with a caretaker, the child was classified as sexually abused. In 2 of 31 recorded cases the child was physically injured as a result of sexual molestation. In those cases the child was recorded as both physically and sexually abused.

The procedures were designed to collect data on the frequency of types of physical and sexual abuse among a population of abused children in a four-county area. The incidence of psychological injury descriptors was also determined.

Education Data

Obtaining Access to Education Data

In order to collect the education data, the following steps were taken:

1. A letter of endorsement was obtained from Dr. Elwood Pace, State Coordinator of Pupil Services (See Appendix H).

2. A letter explaining scope of the project and outlining data collection procedures was mailed to the directors of personnel in the 10 school districts within the four-county area (see Appendix I).

3. This was followed by a telephone call to make an appointment to visit each director.

4. At the time of the personal visit, specific data collection procedures were determined.

Collection Procedures

Due to several factors (e.g., the reluctance of some personnel directors to permit the data collectors to have access to confidential records, and in some cases the administrator's willingness to assist the research effort), the procedures varied among the districts.

In Ogden, Davis, Salt Lake, and Provo Districts, the procedure was as follows:

1. Census figures were recorded utilizing the latest enrollment figures. These were copied on form A (see Appendix J for sample form).

2. The list of abused subjects was then checked by name against the district census report. If a pupil was enrolled in the district, the grade level and the name of the school were copied onto the card.

3. The next step was to count the number of children who had been enrolled in each of the special education categories. These data were obtained from the State Special Education Reports.

4. The last step was to visit the schools to collect academic achievement, I.Q., specialized services, and educational placement data.

5. Some pupils' records could not be found; an additional check was made to determine if they could be located on census reports for previous years. This effort proved to be futile as none of the "lost" subjects were found on earlier census reports.

In Alpine, Nebo, Jordan, Granite, Weber, and Murray Districts the educational data were gathered and recorded by the professional and secretarial staff.

In order to decrease the time spent in the school district offices, a decision was made to complete the special education census counts in the State Offices of Education. This procedure was followed for 6 of the 10 school districts. It was felt that this decision resulted in less inconvenience for the individual school district's staff.

Description of the Data Collected

Of the 181 abused subjects, 138 were located in 10 school districts. It was determined that 22 had moved from the four-county area. The remaining 21 subjects could not be located. It was determined that these students had moved during a year that a school district census was not taken. Only one district (Salt Lake) maintained a file of the cumulative records of transfer students.

The educational placement was determined for each subject. All students were placed into one of the following educational placement categories:

1. Regular class.
2. Learning disabled.
3. Emotionally disturbed.

4. Educable mentally retarded.
5. Trainable mentally retarded.

Academic achievement from scores found in cumulative records was determined for 39 subjects. Several factors accounted for the relatively small number. There have been some recent policy changes in school district testing policies. In some districts tests are not given until the child is in the fourth grade. In other cases norm referenced achievement tests are no longer administered. There were instances where such data were unexplainably absent from the cumulative folders, and in several instances the cumulative student record could not be found. There seemed to be no consistent reason why the data were not available in some cases. Attempts to discover why resulted in several explanations: the child was absent on the day of the test; the child's age group had not been tested; or, the school did not have an explanation. No cause could be recognized which might introduce a bias into the sample. The data collected included name of achievement test, the date the test was administered, and the grade level scores for reading, math, and spelling.

I.Q. test data were available for 50 subjects. These were obtained from the confidential files and school records. In cases where the abused children had received a psychological evaluation as part of the case evaluation by the Division of Family Services, I.Q. scores were found in the confidential files. Such information was also found in school district special education referral folders and cumulative records. The information recorded on the data collection instrument was the name of the test used, the I.Q. score, and the date the test was administered.*

Design

The design utilized for this study has been labeled as causal-comparative or ex post facto research (Borg and Gall, 1971). The method consists of comparing subjects who display a particular trait with those in whom the trait is not present. In this study abused children were compared with children who were not reported as abused in terms of selected educational variables.

There are some limitations associated with the causal-comparative design. It is often difficult or impossible to determine if a cause-effect relationship exists between the two variables selected. It may be that the observed relationship between abuse and school-related problems is due to other causes. Possible intervening variables heretofore unidentified may account for any observed relationships. It may be the case that the children who are likely to have educational problems are also prone to abuse. Thus, the relationships observed cannot be inferred as cause and effect. Research designs which are typically used to discover causes require that two or more groups be compared before and after a particular variable has been introduced. In the case of abuse it would not be ethical or feasible to introduce abuse. It is, thus, likely that a cause-effect relationship will be difficult to establish. A significant association between abuse and the existence of educational handicaps would, however, provide a direction to other studies which may be designed to provide more specific answers to the question of cause and effect.

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*A listing of I.Q. scores is found in Appendix K.

A major purpose of the present study was to provide a better understanding of the relative characteristics of the population of abused subjects. To that end psychological data were collected. These data were found in the Division of Family Services' confidential files. The Abused Child Concept Analysis Scheme contains a list of descriptors of behaviors which have been cited in the literature as being associated with psychological problems. Although some authors have speculated that abused children frequently have psychological problems (see p. 38), there is little data-based research to substantiate that claim. Data were obtained from the Division of Family Services confidential files to show the association between abuse and psychological problems. This was shown by determining the frequency of psychological problems among the study population.

The design of the research contained two methodologies--causal comparative and descriptive. The incidence of educational handicaps among abused children was compared with the incidence among a school-age population who have not been reported as abused. The descriptive component was limited to describing the frequency of psychological injuries among the abused population.

Analysis

The data collected for the study were in two forms: (1) incidence data which were used to compare the abused population with the population not reported as abused and (2) descriptive data. A chi-square analysis was utilized to provide a measure of the statistical significance of the comparative data. The descriptive data were presented in tables and matrices and were analyzed in terms of norms of the literature.

The statistical analyses were made for the entire population of 138 subjects identified as abused in the 10 school districts.

The chi-square analysis was used to determine the significance of the frequency of the following educational variables:

1. Special education placement.
2. Institutional placement.
3. The need for specialized services.

The formula used is shown as follows:

$$X^2_{1df} = \sum_i \sum_j \frac{(|O_{ij} - E_{ij}| - .5)^2}{E_{ij}}$$

As can be seen, the Yates correction factor was utilized in all statistical computations.

Academic data were analyzed by comparing the expected achievement levels in reading, mathematics, and spelling with the actual achievement test scores.

Psychological data were analyzed by determining the total number of problem traits and behaviors and presenting the data in a table showing the relative frequency of each trait or behavior. Matrices were constructed to show the traits and behaviors exhibited by each abused child.

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

The documentation of the frequency of educational handicaps and psychological symptoms in children who have been identified as abused is significant because it represents new knowledge about the complex syndrome known as child abuse. Interpretation of the findings of the present study, however, should include consideration of the following factors:

1. For some unknown reason the frequency of some types of injury was different from those reported in the literature. The majority of the abused population was found to be in three injury categories--sexually abused, neglected, or bruises-welts-scars.

2. Although the frequency of special education and institutional placement was higher among the abused population than in the regular school-age population, cause and effect cannot be inferred.

The results and discussion are presented for each hypothesis and question in the same numerical order as in Chapter I (see pp. 6-7). The findings are based on a total N of 138 abused children.

Educational Placement: Results and Discussion

Results: Hypothesis 1

Hypothesis 1 was stated as follows: The frequency of abused children in special education classes will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

The educational placement of the abused children in the study population is shown in Table 7.

Table 7

Educational Placement of Abused Children in 10 School Districts

		Type of education class				
School district	Total N	Regular	Learning disabled	Emotionally disturbed	Trainable ment. ret.	Educable ment. ret.
Alpine	8	3	1	2	0	1
Davis	5	5	0	0	0	0
Granite	29	16	3	3	0	5
Jordan	8	6	0	1	0	0
Murray	6	3	0	2	0	0
Nebo	8	4	1	1	0	1
Ogden	13	12	0	1	0	0
Provo	7	4	1	1	0	0
Salt Lake	49	34	2	10	0	1
Weber	5	4	0	1	0	0
Total	138	91	9	22	0	8

As can be seen in Table 7, the number of abused children in special education classes was 37. This represented 26.8% of the population of abused children. In the school district population not classified as abused, the number of children in special classes was 18,417 or a total of 8%. Table 7 does not include 10 abused children who were placed in institutions.

The frequency of placement in special education classes was tested for significance using a chi-square statistical procedure. The figures used in the comparative analysis were obtained from school district records; the numbers are representative of all students in the 10 school districts who have not been reported as abused (see Appendix L for school population figures).

The significance of the total number in special education is shown in Table 8.

Table 8

Special Education Placement

	Reported as abused	Not reported as abused
Placed in special education classes	37*	18,388
Not placed in special education classes	101	211,671

*p < .001, 1 df.

The chi-square value obtained was 63.81, which was significant beyond the .001 level.

The significance of the frequency that abused children were found in classes for the learning disabled is shown in Table 9.

The statistical analysis resulted in a chi-square value of .45. This was not statistically significant.

Table 9

Placement in Classes for the Learning Disabled

	Reported as abused	Not reported as abused
Placed in classes for the learning disabled	9	11,416
Not placed in classes for the learning disabled	129	218,643

The significance of the frequency that abused children were found in classes for the educable mentally retarded was also computed. The results are shown in Table 10.

Table 10

Placement in Educable Mentally Retarded Classes

	Reported as abused	Not reported as abused
Placed in classes for the educable mentally retarded	8*	2,231
Not placed in classes for the educable mentally retarded	130	227,826

*p < .001, 1 df.

The chi-square value obtained was 28.29, which was significant beyond the .001 level.

The significance of the frequency that abused children were placed in classes for the emotionally disturbed was determined. The results are shown in Table 11.

Table 11

Placement in Emotionally Disturbed Classes

	Reported as abused	Not reported as abused
Placed in classes for the emotionally disturbed	22*	3,739
Not placed in classes for the emotionally disturbed	116	226,320

*p < .001, 1 df.

The chi-square value obtained was 167.13, which was significant beyond the .001 level.

As no children in the abused population were placed in classes for the trainable mentally retarded, a statistical analysis was not carried out.

Discussion: Hypothesis 1

The data show that a significant proportion of the abused population was found in special education classes. If the same percentage (26.8%) of the total Utah school population was placed in special education programs, the number would be over 82,000.

The percentage of the abused population in classes for the learning disabled was only 1.54% greater than in the population of those children who were not reported as abused. Although one author (Malone, 1966) has specifically stated that abused children are likely to have learning problems, the findings of this study do not support that claim.

The percentage of the abused population in classes for the educable mentally retarded was 4.3. This figure was more than four times as great as the .97% classified as educable mentally retarded in the population not reported as abused. However, the 4.3% was smaller than the findings of other follow-up studies (see p. 42) which have reported a 13% to 71% incidence of mental retardation among groups of abused children. There were no abused subjects who were severely retarded or found in institutions for the retarded. One possible explanation might be that the frequency of severe injuries and central nervous system damage in the study population was low. The studies reporting a high frequency of retardation among abused children (Elmer, 1963; Elmer & Gregg, 1967; McRae, Ferguson, & Lederman, 1973; Martin, 1972; Morse, Sahler, & Friedman, 1970) drew their samples from hospitalized cases containing a large number of severe head injuries. It follows, then, that the severity as well as type of injury might be a salient factor.

The largest number of abused children in special education classes was found in classes for the emotionally disturbed. This finding supports the conclusion made by Bryant et al. (1963) who wrote that abuse often results in deviant behaviors. Martin (1972) also postulated that abuse frequently resulted in the child being emotionally crippled. Others (Burland, Andrews, & Headsten, 1973; Reed et al., 1972) have taken the position that children with emotional problems are more likely to be abused. Whether or not the children in the study population were emotionally disturbed before they were abused could not be determined. If the 15.9% figure in emotionally disturbed classes was present in the regular school population in the 10 districts, over 36,000 students would be so categorized. It should be noted that eight additional abused subjects were under the full-time care of a psychiatric institution, thus the total percentage who would be classified as emotionally disturbed might be considered as 20%.

The data thus indicated that in terms of general special education placement the null hypothesis be rejected. The analysis of specific types of placement showed that the null hypothesis is rejected for two kinds of classes--educable mentally retarded and emotionally disturbed. The frequency that abused children were found in classes for the trainable mentally retarded and learning disabled was not significant; for these two groups, then, the null hypothesis was not rejected.

Results: Hypothesis 2

Hypothesis 2 was stated as follows: The frequency of abused children classified by type of injury in special education classes will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

The frequency of special education placement in three injury categories was investigated. Statistical analysis of the other four injury categories was not undertaken due to the small N. These categories were:

1. Bone injuries N = 1.
2. Visceral abdominal injuries N = 2.
3. Central nervous sytem injuries N = 2.
4. Burns N = 4.

The chi-square statistical procedures were accomplished for those who were classified as having bruises-welts-scars, sexual, and neglectful injuries.

Table 12 shows the educational placement for the three injury categories.

Table 12

Educational Placement for Three Injury Categories[a]

Type of injury	Total N	Type of education class				
		Regular[b]	Learning disabled	Emotionally disturbed	Trainable retarded	Educable retarded
Bruises-welts-scars	73	57	3	10	0	3
Neglectful	46	29	4	10[c]	0	5[c]
Sexual	27	20	0	5	0	2

[a] The total placement N in special education is greater than 37 because of multiple injuries. Several children were in two categories and were counted more than once.

[b] Ten children were also institutionalized.

[c] Two children were classified as both EMR and ED and are counted in each category.

Chi-square values obtained in the statistical analysis are presented for each injury category. The statistical significance of the frequency that abused children with bruises, welts, or scars were found in special education classes was as follows:

1. Three were in classes for the learning disabled The chi-square value was .004 which was not statistically significant (see Table A, Appendix M).

2. Ten were in classes for the emotionally disturbed. The chi-square value was 58.8 which was significant beyond the .001 level (see Table B, Appendix M).

3. Three were in classes for the educable mentally retarded. The chi-square value was 4.55 which was significant at the .05 level (see Table C, Appendix M).

The statistical significance of the numbers of children with neglectful injuries was as follows:

1. Four were in classes for the learning disabled. The chi-square value obtained was .68 which was not significant (see Table D, Appendix M).

2. Ten neglected children were in classes for the emotionally disturbed. The chi-square value obtained was 103.50 which was significant beyond the .001 level (see Table E, Appendix M).

3. Five were classified as educable mentally retarded. The chi-square value was 37.06 which was significant beyond the .001 level (see Table F, Appendix M).

The third category of injury was sexual abuse. The statistical significance for the educational placement was as shown below:

1. Five were in classes for the emotionally disturbed. The chi-square value obtained was 37.9 which was significant beyond the .001 level (see Table 37, Appendix M).

2. Two were placed in classes for the educable mentally retarded. The chi-square value was 5.89 which was statistically significant beyond the .02 level (see Table 38, Appendix M).

3. No sexually abused children were found in classes for the learning disabled.

Discussion: Hypothesis 2

The data show that neglectful injuries are more frequently associated with learning disabilities placement than the other two types of injuries. A strong association between sexual abuse and placement in classes for the emotionally disturbed seemed to be present. Over 25% of the sexually abused population was in classes for the disturbed. Follow-up studies on sexually abused children are noticeably absent from the literature. The majority of the studies are concerned mainly with physical injury. The fact that sexual abuse infrequently is accompanied by physical injury may account for the lack of attention. In the current study sexual abuse resulted in physical injury in only 3 of the 27 cases.

When the total proportion for each category was compared, it was found that 39.1% of the neglected group were in special education classes. The significance of the problem seems apparent as only 8% of the regular school population was found in the four special education categories. The data indicate that the type of abuse was related to the frequency of educational placement. Both neglect and sexual abuse were related to a high frequency of placement in classes for the disturbed.

The data indicate that type of injury was a significant factor in the placement in classes for the educable mentally retarded. The number of neglectfully injured children in this category was significant beyond the .001 level. The number classified by bruises-welts-scars was significant beyond the .05 level and the number that was sexually abused and educable mentally retarded was significant beyond the .02 level.

The type of injury was a significant factor in the frequency that abused children were found in special education classes. Hypothesis 2 was, therefore, rejected.

Results: Hypothesis 3

Hypothesis 3 was stated as follows: The frequency of abused children who receive specialized services will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

Two types of specialized services were assessed: speech therapy and psychological counseling.

Due to the administrative policies in the districts, the number of children who receive the direct services of a psychologist or social work counselor could not be determined. It was determined that many children may see a counselor only once. Others may indirectly receive the services of a psychologist when the psychologist advises the teacher on how to handle specific classroom problems.

Nevertheless, attempts were made to gather the data related to the number of children who were being counseled. It was documented that 8 of the 138 abused children had received services during the past year. In all probability this number did not represent the true number of abused children who received the services of a psychologist due to the factors noted.

The frequency that abused children required speech therapy was determined in two school districts--Salt Lake and Granite. Some difficulty was experienced in the other eight districts gathering valid data--either some reports were missing or the frequency in the population of those not reported as abused could not be determined. The following data for the Salt Lake and Granite Districts are shown in Table 13. The majority of the population for the 10 districts was located in these two districts.

Table 13

Frequency of Abused Children Categorized as Speech Handicapped

	Abused	Not reported as abused
Speech handicapped	6	2,204
Not speech handicapped	132	86,086

The chi-square value obtained was 1.25 which was not significant.

Discussion: Hypothesis 3

The need for specialized services among abused children has not been reported in the literature. Nevertheless, children classified as needing specialized services require additional expenditure of resources. Although the significance of the number of children who require psychological services could not be statistically determined, if the same percentage (5.79%) of the total population of the two school districts was receiving psychological counseling, the number would be 1,066. In a substantive sense, then, abuse seems to be highly associated with the presence of psychological problems.

The six children who were classified as requiring speech and hearing services represent 4.3% of the abused population. If the same percentage were to occur in the total population in Salt Lake and Granite School Districts not identified as abused, over 3,800 children would require specialized services.

The incidence data were not complete for cases involving psychological counseling. No judment could be made whether or not to accept or reject the null hypothesis. The frequency of speech problems in the abused population was not statistically significant. Although a greater proportion of the abused population was speech handicapped, the number failed to reach statistical significance. The null hypothesis was, thus, not rejected.

Results: Hypothesis 4

Hypothesis 4 was stated as follows: The frequency of abused children classified by type of injury who receive specialized services will not differ significantly from the frequency that would be expected in the student population not identified as abused of the specified school districts.

A chi-square statistical analysis was used to determine whether or not the need for specialized services was related to type of abuse. The types of injuries of those who were classified as receiving psychological services are shown in Table 14. These data show that 11.1% of the total population of sexually abused children received psychological counseling; the percentage of neglected children was 2.2; the percentage of the bruises-welts-scars group was 5.5.

The expected frequency of those receiving speech services was based upon the incidence of speech problems in Salt Lake and Granite School Districts.

Table 14

Types of Injuries of Those Receiving Psychological Counseling

	Sexual	Neglectful	Bruises-welts-scars
N	3	1	4
Percentage of injury category	11.1	2.2	5.5

The types of injuries of those classified as requiring speech and hearing services are shown in Table 15.

The chi-square values of the three injury categories were as follows (see Tables 39, 40, 41, Appendix M):

Table 15

Types of Injuries of Those Classified as Receiving Speech Services

	Sexual	Neglectful	Bruises-welts-scars
N	3	2	1
Percentage of injury category	11.1	4.4	1.4

1. Sexual, 5.07, $p < .05$.
2. Neglectful, .11, not significant.
3. Bruises-welts-scars, .06, not significant.

Discussion: Hypothesis 4

The statistical significance of the number of abused children who were receiving psychological counseling was not determined because comparative data were not available. A comparison of the frequency of psychological injuries among the three injury categories showed that sexually abused children required psychological counseling more than twice as often (11.1%) as those who had bruises, welts, and scars (5.5%) and more than four times as often as those who were neglected (2.2%). The differences noted were, however, based upon a relatively small N. The findings should be interpreted in light of this fact.

The frequency that abused children grouped by type of injury were receiving speech therapy was only significant for those who were sexually abused. The number of those who were neglected or had bruises, welts, or scars was not statistically significant.

The data, thus, show that those who are sexually abused receive specialized services more frequently than those who are neglected or have bruises, welts, or scars. Type of injury was a significant factor in the need for speech therapy and psychological counseling. The null hypothesis was, therefore, rejected.

Results: Hypothesis 5

Hypothesis 5 was stated as follows: The frequency of abused children in specialized residential institutions will not differ significantly from the frequency that would be expected in the school-age population in the state of Utah.

Of the 138 abused children in the study population, 8 were found to be in residence in the State Hospital at Provo and 2 were at Boy's Ranch. No abused children were found in the other specialized institutions.

The chi-square statistical analysis showed that the number of abused children in the State Hospital at Provo was significant at the .001 level. These data are shown in Table 16 below. The expected frequency is based on the number of school-age children in the state hospital during 1974-75 (126) and the October, 1974 school census which showed 307,621 school-age children in the state of Utah. These two figures were used because the state hospital draws its population from throughout the state.

Two abused children were placed at Boy's Ranch. This facility is a full-time residential institution for boys with problems. The chi-square value obtained was 136.40 which was significant beyond the .001 level (see Table 17).

Table 16

Abused Children in the State Hospital

	Reported as abused	Not reported as abused
Placed in the State Hospital	8*	118
Not placed in the State Hospital	130	307,365

*p < .001, 1 df.

Table 17

Abused Children at Boy's Ranch

	Reported as abused	Not reported as abused
Placed at Boy's Ranch	2*	34
Not placed at Boy's Ranch	136	307,449

*p < .001, 1 df.

Discussion: Hypothesis 5

Of the institutions in the state, abused children were only found in Boy's Ranch and the State Mental Hospital. None were found to be in institutions for the retarded or delinquent. The significance of the number who were in the State Hospital is not difficult to estimate; if the same percentage of those who were not reported as abused in the school-aged population in Utah were found in the State Hospital in Provo, the total number would be 17,822. Clearly, a strong relationship exists between abuse and the frequency of placement in the State Hospital.

The true significance of the number of abused children found in Boy's Ranch is difficult to assess as the total number was only two. However, since 10 of 138 subjects were seriously disturbed children in residence in a psychiatric-care facility, abuse is highly associated with the frequency of institutional placement. The null hypothesis was therefore rejected.

Results: Hypothesis 6

Hypothesis 6 was stated as follows: The frequency of abused children classified by type of injury in specialized residential institutions will not differ significantly from the frequency that would be expected in the school-age population in the state of Utah. The procedure resulting from this hypothesis was concerned with determining whether or not type of injury was associated with institutional placement. The results of the analysis of mental hospital placement are shown in Table 18 (see also Tables 42, 43, 44, Appendix M).

Table 18

Type of Abuse and Mental Hospital Placement

	Sexual	Neglectful	Bruises-welts-scars
N	4	3	1
Percentage of injury category	14.8	6.5	2.2

The chi-square value obtained for the frequency of placement of the sexually abused children was 1102.13 which was significant beyond the .001 level. The statistical significance of the frequency that neglected children are found in residential mental hospitals was beyond the .001 level (chi-square value = 327.00). Only one child with bruises-welts-scars was institutionalized, but the level of significance was beyond the .01 level (chi-square value = 7.92).

The data analysis for placement at Boy's Ranch by type of injury showed that both children had been neglected (the chi-square value was 415.18). The level of significance was beyond the .001 level (see Table 45, Appendix M).

Discussion: Hypothesis 6

The data analysis showed that half of the total number of the abused children in the State Hospital had been classified as sexually abused. This represented 14.8% of the total number in that category (4 of 24). If the same percentage of the school-age population who were not reported as abused were in mental hospitals the number would be over 45,000. Similarly, if the percentage of those who were neglected occurred in the school-age population of the state, the number would exceed 19,900. As can be seen in Table 18, the type of injury for the categories assessed seems to be a significant variable associated with institutional placement.

As both abused children found in Boy's Ranch were neglected, it was not possible to analyze the data to determine whether or not type of abuse was associated with the frequency of placement at that institution.

The analysis of the data, then, showed a greater frequency of placement in the State Hospital among those who had been sexually abused. Those with neglectful injuries were the next most frequent and only one with bruises, welts, and scars was institutionalized. In terms of placement by type of injury the evidence showed that the frequency was different for different injury categories. The null hypothesis was, therefore, rejected. Only one injury category was found among the two abused children placed in Boy's Ranch; therefore, it was not determined whether or not if the null hypothesis should be rejected or accepted for placement at Boy's Ranch.

Psychological Problems: Results and Discussion

Results: Question 1

Question 1 was stated as follows: What is the frequency of psychological problems among the abused population?

The data collection instrument used in the study contained a list of behaviors and traits which had been reported in the literature as being exhibited by abused children. The data recording procedure was to mark a specified box on a data record form whenever a particular trait or behavior was described in the confidential files. An "other" category was also added to the instrument. This category was used whenever the data collector found a problem trait or behavior which did not fit into the categories listed on the data collection instrument. The procedure followed was to record on the instrument the descriptor(s) used by the social services case worker, psychologist, or other reporter. The data collectors did not interpret or translate the descriptors contained in the case narratives.

Several traits and behaviors on the original list were not described in any of the case files. Since some traits and behaviors were not described in any of the case files, they were obviously unavailable for analysis. The resulting list of behaviors and the frequency of occurrence among the abused population are shown in Table 19.

The traits and behaviors listed in Table 19 represent the frequency that the traits and behaviors were described in the case files. A majority of the subjects (42 of 57) were described as having more than one. In order to show the data more clearly, a matrix was constructed which shows the distribution of traits for each abused subject. The subjects are listed across the top of the matrix by number. An X in a particular row indicates that the subject was described as having that trait or behavior. The matrix thus shows that subject number 1 was described as enuretic and immature. The matrix also provides a visual representation of the clustering of problems among the abused population. (See Figure 1, Psychological Problems Matrix.)

Discussion: Question 1

The presence of psychological traits or behaviors was recorded in 57 of 138 case files. This number should not be regarded as the total number of abused children in the study population who had psychological problems. Interpretation should be made in light of several factors:

1. The thoroughness of the case descriptions in the confidential files was extremely varied. Some cases were discussed in great detail; others were not.

Table 19

Frequency of Psychological Problems

Trait or behavior	Frequency	Trait or behavior	Frequency
Hangs around school	1	Enuretic	5
Psychosomatic complaints	1	Masochism	1
Lies	5	Withdrawal	13
Apathetic	1	Shyness	4
Cruel to animals	1	Fear	13
Immature	1	Destructiveness	8
Depressed	4	Aggressiveness	15
Developing character disorder	2	Absent	10
Hostile	6	Vitriolic	4
Hyperactive	1	Tardy	2
Low self esteem	1	Clingy	7
Pyromania	2	Uncommunicative	2
School phobia	1	Steals	7
Impulsive	1	Poor social relationships	10
Belligerent	1	Role reversal	1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
Masochism		X																																																							
Withdrawal											X				X								X	X			X				X						X	X				X												X		X	X
Shyness																							X															X											X						X		
Fear		X					X			X		X			X					X		X			X																X						X		X								
Destructiveness					X	X	X		X																					X				X	X		X			X																	
Aggressiveness		X	X		X	X			X						X		X				X													X	X	X	X			X		X							X								
Absent						X							X						X		X				X								X	X						X									X				X		X		
Vitriolic							X														X													X																							
Tardy														X											X																														X		
Clingy		X		X			X							X			X											X		X																	X		X								
Uncommunicative									X																														X																		
Stealing			X													X				X									X					X			X							X													
Depressed																				X													X																								
Poor social relationships					X	X																X	X	X		X												X				X	X							X								
Belligerent																X																																									
Role reversal																																X																									
Enuretic	X							X						X							X																		X																		
Hangs around school																							X																																		
Psychosomatic complaints		X																																																							
Lies		X							X							X													X								X																X				
Apathetic								X																																																	
Cruel to animals																						X																																			
Immature	X									X													X								X																										
Depressed													X														X																									X					
Developing character disorder																		X																																							
Hostile																																													X	X	X	X		X	X				X		
Low self esteem																																																				X					
Pyromania					X																									X																											
School phobia																																	X																								
Impulsive					X																																																				

Figure 1. Psychological problems matrix.

2. Some case files included psychological evaluations by a professional psychologist or psychiatrist. Others contained only a brief social history.

3. In some instances the abuse was recent; others had been identified as early as 1968. The older files generally contained more information.

In Ogden, Salt Lake, Murray, and Nebo School Districts the district personnel stated that the children were generally known as being in trouble. Not all of these children were identified in the confidential files as having problems. It would seem, then, that psychological problems were underreported.

A second problem related to interpretation is the form of the descriptors. They were not all stated in behavioral terms. Such terms as "aggressive" or "belligerent" represent different specific behaviors. Also, there was no way to determine if this difference was, in fact, perceived by the individual who placed this description in the subject file. The descriptors do not indicate severity. For example, a child who was labeled withdrawn may have been catatonic, schizophrenic, or simply have exhibited a low frequency of social interaction.

The presence of particular behaviors was thought to be indicative of trends. Thus, a general indication of the types of psychological problems associated with abuse could be enumerated.

As can be seen in Table 19, aggressiveness was the most frequently observed trait, with fear and withdrawal the next most frequent. These findings tend to agree with those of Ten Broek (1974), who described abused children as either very withdrawn or overactive.

O'Neill (1973) estimated that 20% of 110 abused children were withdrawn or terrified. Terr (1970) also reported a high degree of withdrawal. Toilet training problems were reported to be associated with abuse by Morris, Gould, and Matthews (1964). In the present study five children were reported as enuretic. Gil (1971) noted the presence of psychosocial problems. The findings of this study showed that 10 children had poor peer relationships. Lebourdias (1972) reported that abused children are wary of physical contact. This trait was not described in any of the files reviewed. In fact, seven subjects were described as clingy. Five subjects were described as frequent liars and seven were identified as stealers. These traits were not described in the literature as being found among abused children. Neither was chronic absence from school, which was found in 10 cases in the study population.

An examination of the Psychological Problem Matrix (Figure 1) reveals some interesting patterns. For example, the trait most frequently associated with destructiveness was aggressiveness. In seven of nine cases the destructive child was also aggressive. As might be expected, the trait most frequently associated with withdrawal was poor social relationships. This occurred in 4 of 13 cases. Lying was reported in three of seven cases of those who were described as stealers. The matrix also contains some seemingly contradictory data; subject number 15 was described as withdrawn and aggressive. Again, however, it should be stated that the lack of behavioral descriptors and inadequate record keeping systems precludes the interpretation of this psychological data in any manner except as a general indication of patterns and trends.

Results: Question 2

Question 2 was stated as follows: Is type of injury a factor related to the frequency and kind of psychological problems exhibited in the abused population?

Data were tabulated for children who were neglected, sexually abused, and described as having bruises, welts, and scars. Table 20 shows the most frequently appearing traits and behaviors and the percentage of each group in each category. The figures are based on 13 sexually abused, 23 neglected, and 29 subjects who were described as having bruises, welts, or scars.

A psychological problems matrix was also constructed for the three injury categories. The matrices are found in Appendix N.

Discussion: Question 3

Analysis of the data in Table 20 shows that four traits appear only in the sexual category--hostile, shy, immature, and depressed. Clingy, absent, enuretic, and steals are found only in the neglectful category, while there are no traits specific to the group labeled bruises-welts-scars.

A comparison of the percentages in the common categories shows that the groups are almost equal in the percentage having poor social relationships. Fear is ranked second in incidence in the sexual and bruises-welts-scars categories and does not appear in the neglectful category. It is notable that these types of abuse are associated with overt action on the part of the caretaker while neglectful

Table 20

Psychological Traits and Behaviors for Three Categories of Abuse

Sexual	%	Neglectful	%	Bruises-welts-scars	%
Hostile	46	Poor social relationships	22	Poor social relationships	24
Fear	31	Clingy	22	Fear	24
Poor social relationships	23	Destructive	17	Destructive	21
Withdrawal	15	Absent	17	Aggressive	21
Shyness	15	Aggressive	17	Withdrawal	17
Immature	15	Steals	17		
Depressed	15	Enuretic	4		

injuries are the result of acts of omission. It may be that the type of action taken by the abuser may be related to whether or not the child shows fear. Interestingly, destructive and aggressive traits occur equally in neglectful and bruises-welts-scars categories but are not found to occur at a high rate in the sexual group. Apparently, sexual abuse differs from the other two categories in that destruction and aggression do not seem to be associated with that trait. This is somewhat paradoxical in that 46% were described as being hostile.

The data presented in Table 16, then, seem to indicate that some traits are found in greater frequency in particular categories. Also, some traits are exclusive to specific categories. In other words, the data would seem to indicate that type of injury is related to both frequency and type of psychological problem.

Summary

The analysis of the psychological data is summarized as follows:

1. Psychological problems were likely underreported in the study population.

2. The majority of the subjects displayed more than one problem trait.

3. There is some agreement with the extant literature--withdrawal and aggression were frequent symptoms in the study population.

4. Some traits seemed to be associated with a specific type of injury in the three categories analyzed. The analysis showed that some traits (e.g., poor social relationships) were found to occur in a similar percentage for each category. Other traits were specific to a category. For example, hostility was reported in 46% of the sexually abused subjects but did not appear in the other two categories.

5. Due to the fact that the descriptors were not behaviorally stated and the severity of the problems could not be determined, further research is needed.

Academic Achievement: Results and Discussion

Introduction

Academic achievement is the common yardstick by which all students are measured. Students who are found to be substantially below the normative level have been the object of some concern by educators. Students who are underachievers often require extra help. This may be provided by tutors, extra teacher time, or even special remedial programs. One problem, then, is that additional resources of time and money are often spent on the underachiever. There are other costs--the underachieving child may be labeled as being deficient and subjected to ridicule. The lack of success in academic subjects may result in the child dropping out of school, thereby limiting future opportunity.

In order not to violate an agreement with the Division of Family Services concerning confidentiality, no abused children could be contacted in person; for that reason, it was decided to use existing achievement data. The use of such data has been criticized (Borg and Gall, 1971). The scores obtained, however, represent a measure of where the child is placed by the school system. The validity issues (e.g., no control over the validity of the academic test procedures and a rather small N) preclude the use of the findings except as a general indication of the academic achievement levels of abused children.

Results: Question 3

Question 3 was stated as follows: Do spelling achievement levels obtained by abused children differ from estimated normative levels?

The data were obtained from achievement test data contained in the confidential school records. The scores are reported by type of test. Some scores were reported as percentiles instead of grade level. These have been listed in a separate table. Due to the fact that the majority of the schools did not record the exact date that a particular test was given, it was decided to estimate the expected grade level based on a fall administration of the test. If several tests were recorded in the files the most recent set of scores was utilized.

The findings of the spelling tests which were reported as percentiles are shown in Table 21. The data show that among the four spelling scores reported by percentile the maximum was 37 and the minimum 10. The average tested level was the 21st percentile.

Table 21

Spelling Achievement Reported by Percentile

Name of test	N	Percentile rank	Total average percentile
CTBS[a]	3	37	
		16	
		17	
ITBS[b]	1	15	
Total	4		21

[a] California Test of Basic Skills.

[b] Iowa Test of Basic Skills.

The spelling achievement scores reported by grade level are shown in Table 22. The average for the group was almost three quarters of a year below the expected grade level. Further analysis indicated that of the 37 students for whom spelling information was available, 27 were below grade level.

Discussion: Question 3

The spelling achievement scores showed that the abused population generally scored lower than would be expected on achievement tests. Analysis of the average difference between expected and

Table 22

Spelling Achievement Reported by Grade Level

Name of test	N	Expected grade level	Obtained grade level	Average difference
Gates[a]	2	2	2.0	
		3	2.6	-.2
ITBS	1	6	6.1	+.1
SAT[b]	14	4	3.1	
		6	3.4	
		6	5.1	
		10	9.5	
		6	5.0	
		2	3.7	
		3	4.6	
		3	1.5	
		6	7.8	
		3	3.0	
		6	4.1	
		3	2.0	
		2	2.3	
		7	5.1	-.63
CAT[c]	3	2	1.9	
		8	4.8	
		3	3.7	-.87
MAT[d]	4	4	3.4	
		5	5.6	
		3	2.0	
		4	2.2	-.7
WRAT[e]	3	5	2.2	
		6	3.5	
		8	3.5	-2.93
CTBS	5	4	4.7	
		5	3.8	
		6	8.4	
		5	4.1	
		6	5.7	-.14
Total	32			-.71

[a] Gates-Russel Spelling Diagnostic Tests.

[b] Stanford Achievement Test.

[c] California Achievement Test.

[d] Metropolitan Achievement Test.

[e] Wide Range Achievement Test.

achieved levels is possibly misleading. The general trend with academic underachievers is that the degree of deviation from the norm increases as the student becomes older. An underachieving first, second, or third grader is not as likely to be as far from the mean as he is when he is older. Thus when the first three grade scores are compared with those of the older pupils, the 21 older students average 1.04 grade levels below the expected level and the 9 younger pupils are .03 above. The older students were clearly more handicapped as measured by achievement scores.

Spelling achievement among the abused population was shown to be generally lower than the estimated expected level. Thirty-seven were below the expected grade level. The average deviation was .71 grades under the expected level. Further, it was shown that the spelling underachievement seemed to be found mostly in the older students.

Results: Question 4

Question 4 was stated as follows: Do mathematics achievement levels obtained by abused children differ from estimated normative levels?

The mathematics achievement levels of abused children are shown in the following two tables. Table 23 shows the scores which were reported as percentiles.

The data show that among the eight subjects one was above grade level, the rest below. The overall average was the 32nd percentile. The majority of the scores were reported as grade levels. These data are summarized in Table 24. Of the total number, 30 of the total 41 subjects were found to have scored below grade level.

Table 23

Mathematics Achievement Reported by Percentile

Name of test	N	Percentile rank	Average percentile
CTBS	6	21	
		23	
		9	
		38	
		30	
		84	34
ITBS	1	20	20
Total	7		32

Discussion: Question 4

The mathematics scores were generally below the expected levels. The average difference was a minus .82 of a grade level. The average difference between the expected and achieved levels for the first through third grades was -.14. The average grade level difference for the upper grades was -1.1. As in spelling, the difference in the older group was much larger than in the younger group. The number of children in the older group was 24; of these, 6 or 25% were at or above grade level. In the younger group, 5 of 9 or 55% were at or above grade level. The data show that lower academic scores were more prevalent in the older children.

Table 24

Mathematics Achievement Reported by Grade Level

Name of test	N	Expected grade level	Obtained grade level	Average difference
ITBS	2	2	3.2	
		6	6.7	+.95
SAT	15	4	3.2	
		6	3.1	
		6	6.1	
		10	7.2	
		6	3.9	
		2	3.4	
		3	3.1	
		3	1.6	
		9	4.8	
		6	7.1	
		5	3.0	
		6	4.8	
		3	3.2	
		2	2.0	
		7	5.8	-1.05
CAT	3	2	1.3	
		8	5.3	
		3	2.5	-1.32
MAT	4	4	3.4	
		5	4.9	
		3	1.4	
		4	2.3	-1.0
WRAT	3	5	2.9	
		6	5.2	
		8	1.7	-3.07
CTBS	6	5	7.5	
		4	4.5	
		5	3.9	
		6	8.5	
		5	4.7	
		6	5.7	-.63
Total	33			-.82

Results: Question 5

Question 5 was stated as follows: Do reading achievement levels obtained by abused children differ from estimated normative levels? The reading achievement levels of abused children are shown in the following two tables. Table 25 shows the reading scores which were reported as percentiles. The data indicate that two of the six scores were at or above grade level. Two scores are relatively low, which in such a small N tends to result in an average which might be misleading unless the data are carefully examined.

Table 25

Reading Achievement Reported by Percentile

Name of test	N	Percentile rank	Average percentile
CTBS	5	62	
		3	
		18	
		29	
		51	33
ITBS	1	2	2
Total	6		28

The reading achievement scores reported as grade levels are shown in Table 26.

Table 26

Reading Achievement Reported by Grade Level

Name of test	N	Expected grade level	Obtained grade level	Average difference
Gates[a]	4	2	3.5	
		6	5.3	
		3	2.4	
		3	2.6	-.05
ITBS	1	6	6.6	+.60
SAT	15	4	2.7	
		[illegible]	3.0	
		6	5.6	
		10	10.2	
		6	4.3	
		2	2.6	
		3	3.2	
		3	2.6	
		9	4.8	
		6	9.8	
		5	2.6	
		6	5.3	
		3	2.8	
		2	2.4	
		7	4.2	-.79
CAT	4	2	1.8	
		8	4.6	
		1	1.8	
		3	3.4	-.61
MAT	4	4	3.2	
		5	4.3	
		3	1.2	
		4	2.1	-1.13
WRAT	3	5	2.8	
		6	6.7	
		8	6.1	-3.4
CTBS	7	1	2.1	
		5	6.5	
		4	4.6	
		5	3.9	
		6	7.6	
		5	4.3	
		6	4.3	+.19
Gray	2	3	1.2	
Oral		10	7	-2.35
Total	40		Total average	-.14

[a] Gates-McKillop Reading Diagnostive Test.

Discussion: Question 5

As can be seen, the total average reading difference was only -.14, which represents approximately a one and one-half month discrepancy. The difference was not as pronounced as in mathematics and spelling. The data show that 14 of 48 had obtained scores which were at or above grade level. When the group was divided into the older and younger groups, it was found that the same pattern existed as in spelling and mathematics. The average difference between the third grade and younger groups expected and actual achievement level was -.02, while the older group was -.83. Due to the persistence of the pattern that the achievement discrepancy seemed to be larger in the older groups, the data were regrouped according to grade level. Table 27 shows the average grade level difference between the expected and observed grade level scores for each grade level. The data indicate that for this population the greatest average difference between expected and actual achievement levels was in the fifth grade. The overall trend then was a gradual decrease until the fifth grade. The sixth grade scores do not reflect a large difference between the observed and estimated levels. While the scores of the seventh through tenth grades show a dramatic drop, the N was considered too low to be a valid indication of possible trends.

The academic achievement of the study population is generally below average. The majority of the subjects were below grade level in each of the three academic areas. There was a difference between lower and upper grades on achievement. The general trend was that the achievement levels decreased in the later grades. The lack of a

Table 27

Average Grade Level Difference by Grade Level

Grade level	Spelling		Mathematics		Reading	
	N	Difference	N	Difference	N	Difference
1	0		0		0	
2	4	+.48	4	+.48	4	+.58
3	7	-.28	5	-.64	8	-.58
4	4	-.65	4	-.65	4	-.85
5	4	-1.08	6	-.52	6	-.93
6	9	-.54	9	-.32	10	-.15
7	1	-1.9	1	-1.2	1	-2.8
8	2	-3.85	2	-.45	2	-2.65
9	0		1	-4.2	1	-4.2
10	1	-.5	1	-2.8	2	-1.4
11	0		0		0	
12	0					
Total average		.71		-.82		-.14

suitable N in the higher grades, however, does not permit a grade-by-grade comparison.

Results: Question 6

Question 6 was stated as follows: Is type of injury related to the academic achievement as shown by standardized tests in mathematics, spelling, and reading?

The academic achievement levels were determined for the three categories which contained a sufficient N for analysis. These were neglectful, bruises-welts-scars, and sexual abuse. The results are shown in Table 28.

Table 28

Academic Achievement for Three Categories of Abuse

Type of injury	N	Average difference between estimated and expected achievement Mathematics	Spelling	Reading
Bruises-welts-scars	19	-.58	-.65	-.45
Neglect	13	-.53	-.64	-.12
Sexual	12	-1.38	-.97	-.93

Several scores were reported as percentile ranks. Due to the fact that only one such score was in the sexual abuse category, it was decided that a percentile rank comparison would not be useful.

Discussion: Question 6

Table 28 indicates that sexual abuse may be associated with academic deficits to a greater extent than children who have been neglected or suffered physical abuse as indicated by bruises, welts, or scars. Analysis to determine whether this difference is significant or not would tend to be misleading, however.

There are several explanations for the apparent difference. Those who were sexually abused tended to be grouped in the upper grades.

As previously shown, the achievement deficits in the upper grades are generally higher than for the lower. Whether this is due to the number of sexually abused subjects or a function of age or some other yet unidentified factor has not been determined.

Further research needs to be completed to substantiate cause and effect and identify salient variables. In order to establish whether or not there is a true difference in achievement, random sampling of a large population of abused subjects would need to be accomplished. The importance of academic achievement and the size of the observed deficits are two factors which support the need for such future investigation.

Summary

The analysis of the academic achievement data is summarized as follows:

1. The majority of the achievement scores obtained from the files of abused subjects were below the expected grade level.
2. Spelling and mathematics scores were lower than reading.
3. Grade level seemed to be related to the size of the academic deficits. The small number of test scores for some grade levels prevented a complete analysis.
4. Analysis of three categories of abuse for academic achievement indicated that the sexually abused subjects showed greater deficits than those who were categorized as neglected or had bruises, welts, or scars. Neglected subjects showed the least amount of deficit in reading of any of the groups.

Multiple Injuries

Of the 138 abused subjects, 18 had multiple injuries as shown in Table 29.

Table 29

Multiple Injuries

Injury categories	Bruises-welts-scars	Burns	Central nervous system	Bone	Visceral	Neglect	Sexual
Bruises-welts-scars	0	2	1	0	2	7	3
Burns		0	0	0	0	1	0
Central nervous system			0	0	0	0	0
Bone				0	0	0	0
Visceral					0	0	0
Neglectful						0	2
Sexual							0

While it may seem plausible to assume that multiple injuries would be associated with a higher frequency of handicapping conditions, this was not shown to be the case. Of the 18 subjects classified as having multiple injuries, 3 or 16.7% were in special education classes. This is less than the 25.9% found in the total abused population. One child (5.5%) was in the State Mental Hospital. This was slightly less than the 5.8% reported in the total abused population. The data would thus seem to indicate that multiple injuries were not a significant factor in terms of educational or institutional placement.

Achievement scores were available for six of those who had multiple injuries. Of these, three of five were below level in reading, three of four in math, and three of three in spelling. The N was considered too small for a comparative analysis.

However, it must be noted that the status of the records found in the state agencies suggests that only the most prominent, outstanding, or readily observed injury was recorded. Moreover, the degree of severity was not indicated in the record. Hence, interpretation of the available data must be viewed with caution.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Throughout history children have been subjected to many forms of abuse. Child abuse, however, had not received much attention until after 1961. Since that time research efforts have increased dramatically. Despite the growth of the research effort, little is known about educational and psychological variables associated with abuse.

It was the purpose of this study to determine the degree to which educational and psychological problems were present in a selected population of abused children. The following variables were investigated:

1. The frequency of special education placement.
2. The frequency of the need for specialized services.
3. The frequency of institutional placement.
4. The type and frequency of traits and behaviors which may be indicative of psychological problems.
5. The academic achievement levels.

The subjects consisted of all school-age children who had been referred to the Juvenile Court for abuse in a four-county area during the past six years. Of 355 potential subjects who had been referred to the court, 138 were utilized as subjects.

Data collection was carried out by a four-person data collection team. The sources of data were the Division of Family Services confidential files, cumulative school records, and special education reports from the State Office of Education.

The findings showed that the abused children were found more frequently in special education classes than those in the four-county area who had not been reported as abused. A chi-square statistical analysis showed that the frequency of special education placement was significant beyond the .001 level.

Abused children were found in classes for the emotionally disturbed, educable mentally retarded, and learning disabled. The number of abused children in classes for the emotionally disturbed and educable mentally retarded was statistically significant. The frequency that abused children were found in classes for the learning disabled was not statistically significant.

The findings also showed that type of abuse was a factor in the type of educational placement. Placement in classes for the emotionally disturbed occurred more frequently among those who had been classified as sexually abused. The lowest frequency of placement in classes for the emotionally disturbed occurred among those with bruises, welts, and scars. Placement in classes for the educable mentally retarded occurred most frequently among those children with neglectful injuries; the lowest frequency in these classes occurred among those with bruises, welts, and scars. Placement in classes for the learning disabled occurred most frequently among those who had been neglected; however, the frequency was not statistically significant for any of the injury categories.

The frequency that abused children were receiving psychological counseling and speech therapy in the schools was difficult to determine. The statistical significance of the number receiving counseling could not be determined because comparative data in the regular population were not available. The number receiving speech therapy was not statistically significant.

The number of abused children who were found to be in the state mental institution was statistically significant. In terms of the percentage of the school-age children in Utah who were in residence at the Provo facility during 1974-75, the number of abused was extremely high. Additionally it was found that half of the abused children in the State Hospital had been sexually abused.

The psychological data gathered for the study indicated that abused children were frequently described as aggressive, withdrawn, fearful, and having poor social relationships. Analysis of the data revealed that some psychological problems were related to type of abuse. Aggressive destructive behaviors were found in association with injuries resulting from aggression. Hostility was documented only in those who had been sexually abused.

Academic achievement of the majority of the abused children was found to be below grade level. The average deficit was lower for mathematics and spelling than reading. Sexually abused children had lower achievement levels than those who had been neglected or had bruises, welts, or scars.

Conclusions

The findings of this study have shown that the abused population was different from the population of children who had not been reported as abused. They were placed in special education classes more frequently, more were found in institutions, and their academic achievement was generally below average. Further, they were found to exhibit behaviors indicative of psychological problems. On the basis of these findings, it was concluded that abuse is a multidimensional problem which extends beyond the immediate effects of the abusive act.

Further, analysis of the data showed that some problems occurred more frequently among some groups classified by type of injury. It was concluded that type of injury was an important factor and that abuse is a generic term which describes a broad spectrum of specific kinds of abuse.

The large number of abused children who were found to be in psychiatric institutions and classes for the emotionally disturbed indicated that abuse was associated with a high frequency of emotional problems. Further, the data showed that some kinds of psychological problems were related to type of abuse. Aggressive destructive traits were found in association with injuries resulting from physical aggression. Hostility was documented only in those cases where sexual abuse had taken place. It may be that specific psychological conditions are related to the specific type of abuse. The data lend credence to the theory that abusive behavior is passed on from generation to generation and abused children are likely to become abusive parents.

The academic achievement level of the majority of the abused children was below grade level. These data tend to support Malone (1966) who stated that abused children would likely have learning problems. When the data were analyzed by type of injury it was shown that sexually abused children had lower achievement levels than children who suffered other types of injuries. Thus, a child who has suffered abuse will exhibit lower achievement in school. Moreover, the type of abuse and achievement in school also seem to be related.

In order to better understand the phenomenon of abuse, it should be viewed as a complex phenomenon which consists of many types of injuries and many types of educational and psychological problems. The fact that multidimensional injuries are related to multidimensional problems is an issue which must be addressed in any study of the problems of abused children.

Recommendations

The findings of this study indicate that abused children are likely to have educational problems to a far greater extent than might be found in the "normal" population. Additional studies need to be carried out to determine if a cause-effect relationship exists between abuse and psychoeducational problems. While it may seem that abuse is responsible for such problems, at least one author has suggested that children with problems are more likely to be abused. The magnitude of the problem, however, is such that investigations should receive a high priority status as the cost in resources and lost human potential is extremely high.

In order to effectively carry out future studies, the following recommendations are proposed:

1. Present record-keeping systems need to be revised in order to provide a more adequate data base than is currently available. In the present study many subjects were "lost" because of incomplete or "missing" records.

2. Given proper safeguards to protect confidentiality, central registries presently being established in Utah and other states should be given the responsibility for gathering relevant data.

3. Professionals working in the area of child abuse should be given appropriate training to identify and record relevant data.

4. In order to insure that data collected are consistent and valid, a common taxonomy of behavioral and injury descriptors should be developed. As was noted, injury descriptions were often vague or missing from the confidential files, and psychological traits were not described in behavioral terms. It was therefore not possible to determine the true meaning of such terms as "hostile," "destructive," etc.

When the abused population was subdivided by type of injury, it was found that particular psychological and educational problems occurred at a higher frequency among some injury types. Abuse is apparently not an undimensional factor. It is therefore recommended that:

1. Future studies of the characteristics of abused children should utilize the Abused Child Concept Analysis Scheme (or some other similar instrument) to classify abused children by type of injury.

2. Schools, hospitals, social institutions, and professionals in the area of child abuse should be charged with the responsibility of collecting data using a common classification scheme such as the Abused Child Concept Analysis Scheme. This would result in better generalizability and communication of the findings.

3. Future studies should collect psychological data so that the psychological implications of abuse can be better understood.

Since the present study showed a high frequency of some types of injury (e.g., sexual) and a low frequency of such injuries as broken bones and central nervous system damages, it may be that type of injury is related to some unidentified cultural variables. It is, therefore, recommended that:

1. Investigations should be carried out to determine if such factors as religion, ethnic group, or other social factors are related to type of injury.

2. The findings of such studies should be used to identify modes of prevention and treatment specific to identified populations.

Based on the data obtained for the population in the study, abused children are found more frequently in special classes and institutions. It is therefore recommended that:

1. Fiscal data should be secured to provide an estimate of the financial costs associated with child abuse. This would serve two purposes: a greater public awareness of the ramifications of abuse in society and a rational justification to assist legislative bodies to make decisions regarding funding and legislation in the area of child abuse.

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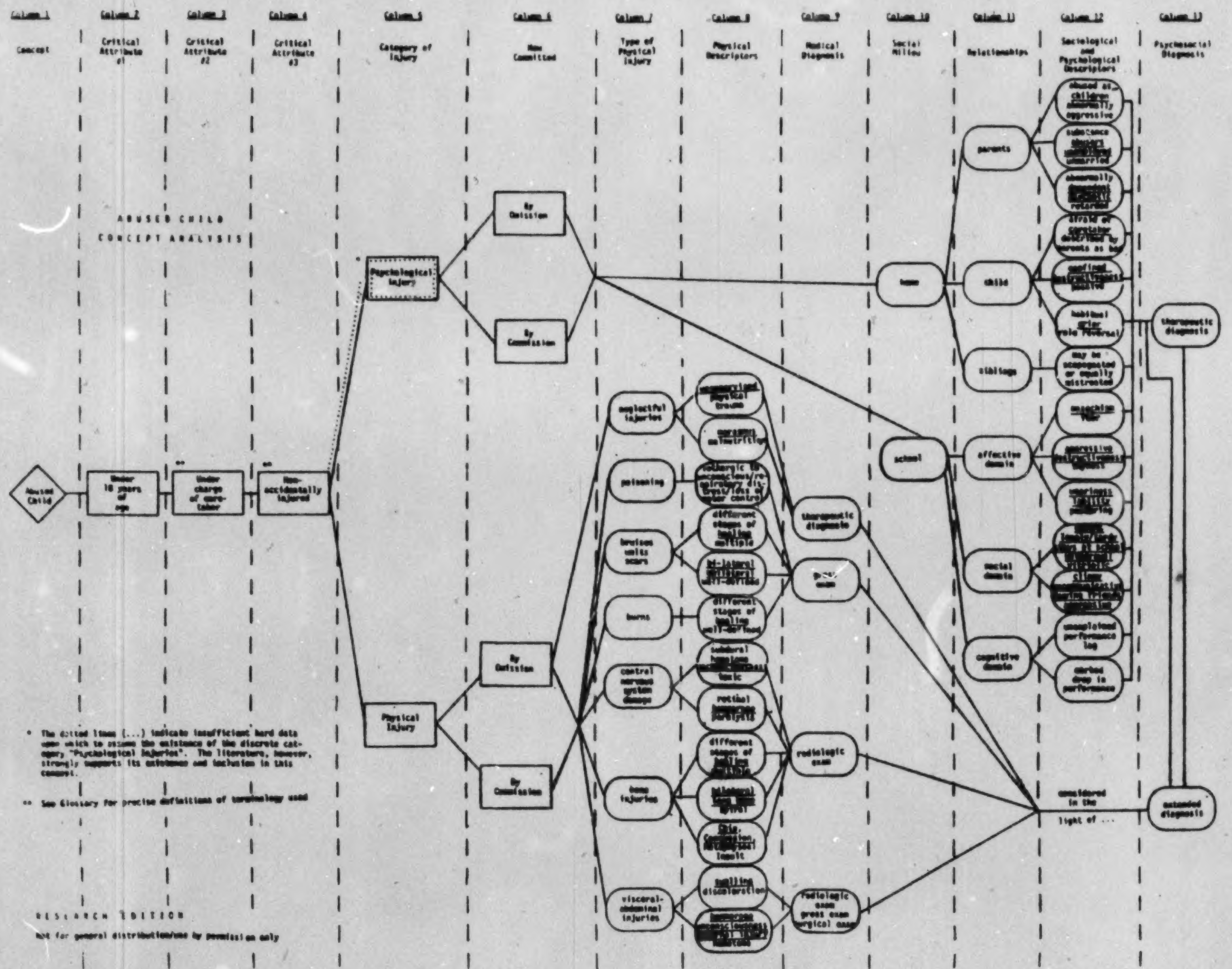
APPENDICES

Appendix A

Abused Child Concept Analysis Scheme

ABUSED CHILD CONCEPT ANALYSIS SCHEME


Column 1
Concept
Column 2
Critical Attribute #1
Column 3
Critical Attribute #2
Column 4
Critical Attribute #3
Column 5
Category of Injury
Column 6
How Committed
Column 7
Type of Physical Injury
Column 8
Physical Descriptors
Column 9
Medical Diagnosis
Column 10
Social Milieu
Column 11
Relationships
Column 12
Sociological and Psychological Descriptors
Column 13
Psychosocial Diagnosis
Abused Child
Under 18 years of age
Under charge of care-taker
Non-accidentally injured
Psychological Injury
Physical Injury
By Omission
By Commission
By Omission
By Commission
neglectful injuries
poisoning
bruises welts scars
burns
central nervous system damage
bone injuries
visceral-abdominal injuries
physical trauma
malnutrition
lethargic to unconscious/respiratory distress/loss of motor control
different stages of healing multiple
bi-lateral well-defined
different stages of healing well-defined
subdural
toxic
retinal paralysis
different stages of healing
bilateral
impact
swelling discoloration
therapeutic diagnosis
gross exam
radiologic exam
radiologic exam gross exam surgical exam
home
school
parents
child
siblings
affective domain
social domain
cognitive domain
abused as children abnormally aggressive
substance abusers unmarried
abnormally retarded
afraid of caretaker described by parents as bad
confined passive
habitual role reversal
may be scapegoated or equally mistreated
aggressive
unexplained performance lag
marked drop in performance
considered in the light of ...
therapeutic diagnosis
extended diagnosis
**

A B U S E D C H I L D
C O N C E P T A N A L Y S I S

* The dotted lines (...) indicate insufficient hard data upon which to assume the existence of the discrete category "Psychological Injuries". The literature, however, strongly supports its existence and inclusion in this concept.

** See Glossary for precise definitions of terminology used

RESEARCH EDITION

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Appendix B

Abused Child Concept

Glossary of Terms

ABUSED CHILD CONCEPT

Glossary of Terms

ABNORMAL: Deviating from a standard; not average, typical or usual.

ABUSED CHILD: The product of child abuse. Any person under the age of 18 years in the charge of a caretaker who is non-accidentally injured by an act of omission or commission.

AFFECTIVE DOMAIN: A sphere of activity or influence pertaining to feelings or emotions.

AGGRESSIVE: Behavior characterized by offensive acts or attacks; action or activity carried out in a forceful manner.

BILATERAL: Affecting, or pertaining to, both sides of the body.

BRUISE: An injury that does not break the skin but causes ruptures of small underlying vessels with resultant discoloration of tissues. Syn.: contusion.

BURN: An injury produced by, or as if by, burning.

CARETAKER: Anyone responsible for the health and well-being of a child. A caretaker may be a parent, guardian, foster parent, teacher, baby sitter, or other person charged with the care of a child.

CENTRAL NERVOUS SYSTEM: The system controlling those bodily functions of, relating to, comprising or originating in the brain and spinal cord.

CLINGY: Behavior characterized by a strong tendency to physically hold onto and/or a reluctance to separate from; a strong emotional dependence.

COGNITIVE DOMAIN: A sphere of activity or influence pertaining or relating to the acquisition and application of knowledge.

COMMISSION: A willful or volitional act.

CONCEPT: A class the members of which share some properties in common.

CONFINED: A state existing when movement is restricted beyond accepted norms; bound, imprisoned, denied freedom, locked up, etc..

CRITICAL ATTRIBUTE: A property of every example of a concept. If it is removed, the example becomes a non-example.

DESCRIPTOR: A property of a concept which may, in and of itself be insufficient but delimits examples of the concept; pictures, words, descriptions, characteristics, etc..

DESTRUCTIVENESS: Behavior resulting in damage to property, self or others.

DIFFERENT STAGES OF HEALING: Injuries of differing ages.

DOMAIN: A sphere of influence or activity.

EXTENDED DIAGNOSIS: The use of social, emotional, economic or other environmental factors which tend to confirm or deny suspected cases of child abuse.

FRACTURE: A break or rupture in a bone.

CHIP FRACTURE: A break in a bone which separates a small fragment from the main body of the bone.

CONCUSSION FRACTURE: A break in a bone resulting from impact.

LONG BONE FRACTURE: A break in one of the elongated bones supporting a limb; e.g., femur, humerus.

SPIRAL FRACTURE: A break in a bone resulting from twisting or torque.

GROSS EXAMINATION: Physical examination without the aid of radiologic instruments or surgical entry.

HEMATOMA: A swelling containing blood.

INJURY: A harm or hurt, wound or maim which adversely affects health, looks, comfort, or success.

LABILITY: Characterized by rapid emotional or mood changes.

MALNUTRITION: Faulty or inadequate nutrition. The state resulting from inadequate or improper feeding.

MARASMUS: Progressive wasting or emaciation, especially a wasting in infants; failure to thrive.

MASOCHISM: The act of inflicting harm, or causing harm to be inflicted, upon one's self.

MESENTERIC: Referring to the membrane enfolding the intestines.

NEGLECTFUL: Giving little or no attention or regard to; careless; unattending; inadequate caring.

NON-ACCIDENTAL: Occurring by other than chance; e.g., an injury which is inconsistent with the stated cause.

OMISSION: The act of neglecting or leaving undone; neglect of duty; failure to act, etc..

PARALYSIS: Complete or partial loss of function involving motion or sensation in a part of the body.

PASSIVE: Not reacting visibly to something that might be expected to produce manifestations of an emotion or feeling.

PERFORMANCE LAG: An unexplained discrepancy between observed and realistically expectable behavior.

PHYSICAL: Of or pertaining to the body.

POSTURING: Remaining motionless for unusually long periods of time.

PSYCHOLOGICAL INJURY: That which adversely effects the emotional or intellectual well-being of a child.

PSYCHOTIC: Referring to mental disorders characterized by defective or lost contact with reality.

RADIOLOGIC: Of or relating to the use of radioactive substances in medicine; x-ray.

RETARDED: Limited in intellectual or emotional development.

RETINAL HEMMORAGE: Rupture of blood vessels in the perceptive structure of the eye.

ROLE REVERSAL: A pathological pattern of behavior wherein a child assumes the parent role of providing emotional support.

SCAPEGOAT: A person bearing the blame for others and/or receiving the brunt of punishment.

SCAR: A mark left by the healing of injured tissue.

SIBLING: One of two or more persons having one common parent.

SOCIAL DOMAIN: A sphere of influence or activity involving the relationships of an individual to another individual or group.

SUBDURAL HEMATOMA: A swelling containing blood and underlying the membrane which enfolds the brain.

SUBSTANCE ABUSE: Improper use of controlled drugs such as alcohol, narcotics, etc..

THERAPEUTIC DIAGNOSIS: The identification of a disease or pathological state by removal of the patient from setting, providing controlled treatment in a hospital or other therapeutic milieu, and comparing and contrasting observed differences.

TOXIC: Of, relating to, or caused by a poison.

TRAUMA: An injury.

UNCOMMUNICATIVE: Not tending to communicate; untalkative; withdrawn.

UNILATERAL: Of, relating to, or affecting only one side of the body.

VISCERAL-ABDOMINAL: Of relating to, or affecting the inner cavity of the abdomen.

VITRIOLIC: Virulent of feeling or speech; characterized by obscene or violent speech.

WELT: A ridge or lump raised on the body, usually by a blow.

WITHDRAWAL: The act of retreating physically or emotionally to a less exposed position; characterized by a low frequency of social interaction.

Appendix C

Letter to Division of Family Services

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

COLLEGE OF EDUCATION

DEPARTMENT OF
SPECIAL EDUCATION

January 5, 1975

Mr. Bill Low
Division of Family Services
333 South Second East
Salt Lake City, UT 84111

Dear Mr. Low:

Following is a brief description of a proposed research project designed to provide a greater understanding of the educational implications of child abuse/neglect. The Department of Special Education at Utah State University is currently involved in a funded research project to develop a "concept analysis" definition of child abuse. A logical next step is to analyze the educational correlates of child abuse/neglect. In order to accomplish this, we need to obtain access to confidential records located in the Division of Family Services, Juvenile Court, and school records.

There are several issues which should be addressed:

1. The issue of confidentiality of such records will be insured. It is our plan to use names only to locate children in the schools and then match school and court records. As soon as identification has been established and basic demographic data are recorded, names will be replaced by a number coding system. Those assigned to analyze records will be graduate students who are, through their past professional experience, aware of the need of confidentiality.

2. Identification of abused/neglected children will initially be made by utilizing data stored in state computers. Mr. Jim Marchel has agreed to assist us on this matter. The Department of Special Education will pay the programming costs and necessary computer rental fees.

Objectives

Listed below are the major questions to be addressed by the research project:

1. To what extent are abused/neglected children found in special education classes or institutions?

2. To what extent do abused/neglected children require special services in the schools such as speech therapy, psychological counseling or remedial reading or other special educational services?

3. Are specific types of abuse or injury associated with particular kinds of handicapping entities?

4. Are the educational problems of abused children severe enough to indicate further emphasis and study?

Procedures: Data Collection and Analysis

Data collection procedures are listed below:

1. Mr. Jim Marchel has agreed to assist us in obtaining a computer list of all abused and neglected children since 1967. In addition to the names, other information will be sought, i.e. ethnic group, age of child, date of reported abuse and/or neglect, case disposition, last known address, income level, and marital status of the child's family at the time of alleged abuse/neglect.

2. Stratify the target population into age groups. Locate the schools where the abused/neglected child is attending, and obtain the required data from school records - no contact will be made with the child or his family.

3. The final data collection procedures will be accomplished by teams of graduate students who will extract relevant information from case files in Juvenile Court and Division of Family Services.

Data analysis procedures include:

1. Analysis of the data will be accomplished by comparing the total number of abused/neglected children in special classes and institutions with the total number expected from the "normal" population.

2. Adjustments may be made for socio economic status, marital situation, or other intervening variables identified during the study. The same procedure will be followed to determine the extent to which the abused child required special services in the school.

3. Further groupings will be made according to type and degree of injury and again, these data will be compared with school records. For example, are children who suffer brain damage frequently found in classes for the retarded?

4. Final analysis will be to discuss the findings in relation to current knowledge as expressed in existing literature.

Implications

It is felt that this research would provide a basis for appropriate involvement of education in the area of child abuse/neglect. New diagnostic procedures may result. Hence, educators will be able to help these children earlier and more effectively. If child abuse contributes disproportionately to the population of children needing services, the need for further study is established. The findings may be of some assistance to the court if it is determined that placement of children bears upon their subsequent achievement and/or school adjustment. The implications are potentially great to both education and protective service agencies.

Assurances

1. As stated, confidentiality will be strictly maintained.

2. All findings and copies of statistics will be made available to the Division of Family Services and the Juvenile Court.

3. The research team will cooperate with the court or Division of Family Services in any analysis of the data to assist in meeting their data needs.

Sincerely yours,

Jim Christiansen
Research Associate
Abused Child Research Project

Donald F. Kline, Ph.D.
Professor and Head
Department of Special Education

Appendix D

Authorization Letter from the Division of Family Services

STATE OF UTAH - DEPT. OF SOCIAL SERVICES

Division of Family Services

231 EAST 4TH SOUTH
SALT LAKE CITY, UTAH 84111

Evan E. Jones, Jr.
Division Director

February 21, 1975

Donald F. Kline, Ph.D.
Professor and Head
Department of Special Education
Utah State University
Logan, Utah 84322

Dear Dr. Kline:

You may use this letter as authorization for your research team to examine protective service case records in Districts 2-A, 2-B, and 3, which encompasses Weber, Davis, Salt Lake and Utah counties. It is understood that the purpose of examining these records is to gather data to be used in your current research project.

It is further understood that strict confidentiality will be insured and that information obtained will be used safely for purposes of research.

If you have any trouble gaining access to the records you need, please contact this office.

May we wish you every success in your project.

Sincerely,

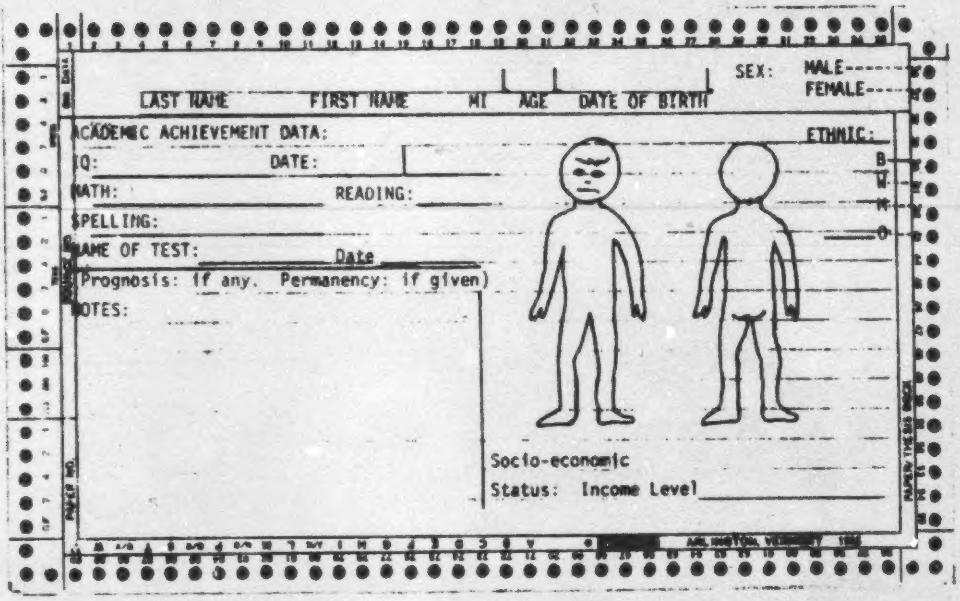
Lloyd H Nelsen

Lloyd H. Nelsen
Deputy Director

LHN:WAL:ch
cc William S. Ward
   William A. Low

Appendix E

Data Collection Instrument



LAST NAME FIRST NAME MI AGE DATE OF BIRTH

SEX: MALE------ FEMALE------

ACADEMIC ACHIEVEMENT DATA:

ETHNIC: B W M O

IQ: DATE:

MATH: READING:

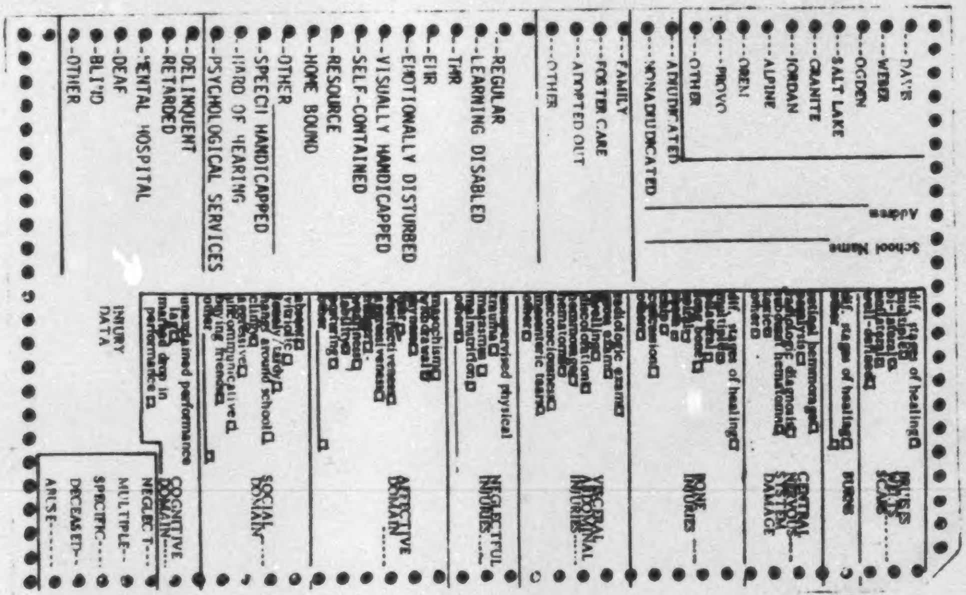
SPELLING:

NAME OF TEST: Date

(Prognosis: if any. Permanency: if given)

NOTES:

Socio-economic
Status: Income Level



--DAVIS
--WEBER
--OGDEN
--SALT LAKE
--GRANITE
--JORDAN
--ALPINE
--OREM
--PROVO
--OTHER

--ADJUDICATED
--NONADJUDICATED

--FAMILY
--FOSTER CARE
--ADOPTED OUT
--OTHER

--REGULAR
--LEARNING DISABLED
--TMR
--EIR
--EMOTIONALLY DISTURBED
--VISUALLY HANDICAPPED
--SELF-CONTAINED
--RESOURCE
--HOME BOUND
--OTHER
--SPEECH HANDICAPPED
--HARD OF HEARING
--PSYCHOLOGICAL SERVICES

--DELINQUENT
--RETARDED
--MENTAL HOSPITAL
--DEAF
--BLIND
--OTHER

School Name

Address

BRUISES SCARS.....
dif. stages of healing☐
[illegible]
self-inflicted☐

BURNS
dif. stages of healing☐

CENTRAL NERVOUS SYSTEM DAMAGE.....
retinal hemorrhage☐
[illegible]
subdural hematoma☐
other☐

BONE INJURIES ....
dif. stages of healing☐
[illegible]
other☐

VISCERAL ABDOMINAL INJURIES.....
radiologic exam☐
[illegible]
hematoma☐
unconsciousness☐
mesenteric tear☐
other☐

NEGLECTFUL INJURIES.....
unsupervised physical
marasmus☐
malnutrition☐
other☐

AFFECTIVE DOMAIN.....
[illegible]
withdrawal☐
[illegible]
other☐

SOCIAL DOMAIN.....
[illegible]
run away from school☐
uncommunicative☐
[illegible] friends☐
other☐

COGNITIVE DOMAIN.....
unexplained performance
marked drop in performance☐

INJURY DATA

NEGLECT---
MULTIPLE--
SPECIFIC----
DECEASED--
ABUSE------

Appendix F

Criteria for Data Collection

Accuracy Check

DATA COLLECTION ACCURACY CRITERIA

SPECIFIC CRITERIA

1. NAME CORRECT ☐
2. ADDRESS CORRECT ☐
3. SEX CORRECT ☐
4. GRADE LEVEL ☐
5. SCHOOL SUCCESS CODE ☐
6. DATE OF INJURIES ☐
7. INJURY LOCATION ☐
8. PICTURE COMPLETE: ALL PRESENT ☐
9. ETHNIC GROUP ☐
10. BIRTHDATE CORRECT ☐
11. INJURY DESCRIPTION MARKED ☐
12. INJURY CORRECT ☐
13. FAMILY STATUS ☐
14. SPECIFIC INJURIES INDICATED ☐
15. DATE OF FILE DATA ☐

Appendix G

Data Collection Checklist

DATA COLLECTION CHECKLIST

1. Check for Accuracy:

   A. Name

   B. Address

2. Form Data: Check the Following:

   A. 1 - 6 check against card: name, address, city, state, social security

   B. Record race

   C. Record date of birth

   D. Record sex

   E. 24, 44 write in remarks section

   F. Grade completed

   G. Grade performance

   H. Family structure

3. Injury Data

   A. Record injury on Figure (write *no specific injury* given if applicable)

   B. Date injuries

   C. Record type of injury

   D. Check off subcategories

   E. Check figure against type of injuries

Appendix H

Support Letter Received from Elwood Pace

UTAH STATE BOARD OF EDUCATION
1400 UNIVERSITY CLUB BUILDING, 136 EAST SOUTH TEMPLE STREET
SALT LAKE CITY, UTAH 84111

WALTER D. TALBOT, STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

April 10, 1975

MEMORANDUM

TO: Pupil Personnel Directors
Utah Public Schools

FROM: R. Elwood Pace, Coordinator, Pupil Services and Special Education

SUBJECT: Utah State University
Department of Special Education
Child Abuse Research

The Child Abuse and Neglect Resource Center (CANRC) in the Department of Special Education at Utah State is engaged in research designed to determine the educational correlates of child abuse. Their research is funded, in part, by the Research Division, Bureau of Education for the Handicapped, U.S. Office of Education.

The purpose of this Memorandum is to encourage you to assist in this research effort. We have provided the resource team with all of the data available to us in the State Department of Education and we hope each of the schools in the state will make student data available for this significant research project.

You may be sure that the investigators have taken every precaution to safe-guard confidentiality. Moreover, we have been assured that the new federal legislation regarding parent and student right to privacy is not violated when student data is revealed for research purposes and reasonable precautions have been taken to safe-guard confidentiality.

Our review of the research underway by the CANRC Team indicates that every precaution has been taken to safe-guard confidentiality, and we encourage you to cooperate in any way possible.

Your cooperation is sincerely appreciated.

LERUE WINGET, Associate Superintendent
Office of Instruction Services

VERE A. McHENRY, Administrator
Division of Staff Development and Pupil Personnel Services
Pre-Service Teacher Education & Certification (801) 328-5965
In-Service Staff Development (801) 328-5965
Pupil Personnel Services, Special Education (801) 328-5982

Appendix I

Letter Mailed to School District Directors of Personnel

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322
COLLEGE OF EDUCATION

DEPARTMENT OF
SPECIAL EDUCATION

February 17, 1975

Director of Personnel
School District
Utah

Dear

The Department of Special Education at Utah State University was recently funded to conduct research into the educational correlates of child abuse. In order to complete the data collection process, we will need the cooperation of school district personnel.

As you know, recent legislation concerns the confidentiality of school records. We are sensitive to that fact. We have sought and obtained a favorable ruling from the State Attorney General's office. Further, we have obtained permission to collect confidential data from Juvenile Court and Division of Family Services files.

In order to abide by present laws, we have designed data collection procedures which do not require identification of students by name.

The purpose of the research project is to determine whether or not abused children require additional services in the schools. We have reason to believe that a large number will be found in special education classes.

We in the Department of Special Education feel that the study will be a significant contribution to the knowledge about abused children. A member of the Abused Child Research Team will contact you by telephone in the next few weeks to explain our work further and to answer any questions you may have. Thank you, in advance, for your assistance on this important matter.

Sincerely,

James L. Christiansen
Research Associate
Abused Child Research Team

Appendix J

Census Record Form

(Form A)

SCHOOL DISTRICT__________

ELEMENTARY__________

	Total Pop	Self-Contained	Resource	% Handicapped	Abused Total	Abused Handicapped
74-75						
73-74						
72-73						
71-72						
70-71						
69-70						
68-69						

Other data # dropouts:

68-69______

69-70______

70-71______

71-72______

72-73______

73-74______

74-75______

SECONDARY__________

	Total Pop	Self-Contained	Resource	% Handicapped	Abused Total	Abused Handicapped
74-75						
73-74						
72-73						
71-72						
70-71						
69-70						
68-69						

Appendix K

I.Q. Scores

I.Q. SCORES

Wechsler Intelligence Scale for Children

	Verbal Score	Performance Score	Full Scale Score
1	67	78	70
2	111	107	110
3	70	75	70
4	81	97	88
5	92	104	98
6	85	88	86
7	101	103	102
8	99	102	101
9	90	114	101
10	82	103	91
11	110	108	108
12	104	108	107
13	108	120	115
14	88	82	84
15	104	107	106
16	105	108	108
17	--	--	93
18	85	103	93
19	87	110	98
20	--	--	104
21	--	--	104
22	75	89	80
23	91	85	87
24	75	96	83

Stanford-Binet

1.	88
2.	77
3.	111
4.	94
5.	100
6.	89
7.	74
8.	91
9.	98
10.	113
11.	98
12.	100
13.	56

Otis

1.	88
2.	103
3.	100

Slosson Intelligence Test

1.	95
2.	98
3.	90

California Test of Mental Maturity

1.	103
2.	126
3.	123
4.	94
5.	75
6.	116
7.	114

Appendix L

School Population Figures

Table 30

Total Population Utah State Schools[a]

School district	Total N	ED	LD	EMR	TMR	
Murray	5,666	121	322	23	14	
Jordan	32,053	274	1,689	145	94	
Ogden	13,276	60	970	219	87	
Alpine	19,459	505	743	104	70	
Granite	60,604	950	2,259	770	232	
Davis	35,415	293	2,164	237	91	
Salt Lake	27,915	194	320	404	239	
Nebo	8,724	325	513	132	0	
Weber	18,484	725	1,915	145	83	Total special education
Provo	8,692	314	529	60	82	
Total	230,197	3,761	11,425	2,239	992	18,425

[a] Fall, 1974 = 307,621.

Appendix M

Chi-Square Contingency Tables

Table 31

Abused Children with Bruises-Welts-Scars in Classes for the Learning Disabled

	Reported as having bruises-welts-scars	Not reported as having bruises-welts-scars
Placed in classes for the learning disabled	3	11,422
Not placed in classes for the learning disabled	70	218,637

p, not significant, 1 df.

Table 32

Abused Children with Bruises-Welts-Scars in Classes for the Emotionally Disturbed

	Reported as having bruises-welts-scars	Not reported as having bruises-welts-scars
Placed in classes for the emotionally disturbed	10*	3,751
Not placed in classes for the emotionally disturbed	63	226,308

*$p < .001$, 1 df.

Table 33

Abused Children with Bruises-Welts-Scars in Classes for the Educable Mentally Retarded

	Reported as having bruises-welts-scars	Not reported as having bruises-welts-scars
Placed in classes for the educable mentally retarded	3*	2,236
Not placed in classes for the educable mentally retarded	70	227,823

*p < .05, 1 df.

Table 34

Abused Children with Neglectful Injuries in Classes for the Learning Disabled

	Reported as having neglectful injuries	Not reported as having neglectful injuries
Placed in classes for the learning disabled	4	11,421
Not placed in classes for the learning disabled	42	218,638

Table 35

Abused Children with Neglectful Injuries in Classes for the Emotionally Disturbed

	Reported as having neglectful injuries	Not reported as having neglectful injuries
Placed in classes for the emotionally disturbed	10*	3,751
Not placed in classes for the emotionally disturbed	36	226,308

*p < .001, 1 df.

Table 36

Abused Children with Neglectful Injuries in Classes for the Educable Mentally Retarded

	Reported as having neglectful injuries	Not reported as having neglectful injuries
Placed in classes for the educable mentally retarded	5*	2,234
Not placed in classes for the educable mentally retarded	41	227,825

*p < .001, 1 df.

Table 37

Sexually Abused Children in Classes for the Emotionally Disturbed

	Reported as sexually abused	Not reported as sexually abused
Placed in classes for the emotionally disturbed	5*	3,756
Not placed in classes for the emotionally disturbed	22	226,303

*p < .001, 1 df.

Table 38

Sexually Abused Children in Classes for the Educable Mentally Retarded

	Reported as sexually abused	Not reported as sexually abused
Placed in classes for the educable mentally retarded	2*	2,237
Not placed in classes for the educable mentally retarded	25	227,822

*p < .02, 1 df.

Table 39

Sexually Abused Children Receiving Speech Services

	Reported as sexually abused	Not reported as sexually abused
Receiving speech services	3*	2,207
Not receiving speech services	24	86,194[a]

*p < .05, 1 df.

[a] Based upon the student population of Salt Lake and Granite School Districts.

Table 40

Neglected Children Receiving Speech Services

	Reported as neglected	Not reported as neglected
Receiving speech services	2	2,208
Not receiving speech services	44	86,174

Table 41

Children with Bruises-Welts-Scars Receiving Speech Services

	Reported as having bruises-welts-scars	Not reported as having bruises-welts-scars
Receiving speech services	1	2,209
Not receiving speech services	72	86,146

Table 42

Sexually Abused Children in the State Hospital

	Reported as sexually abused	Not reported as sexually abused
Placed in the State Hospital	4*	122
Not placed in the State Hospital	23	307,472

*p < .001, 1 df.

Table 43

Neglected Children in the State Hospital

	Reported as neglected	Not reported as neglected
Placed in the State Hospital	3*	123
Not placed in the State Hospital	43	307,452

*p < .001, 1 df.

Table 44

Children with Bruises-Welts-Scars in the State Hospital

	Reported as having bruises-welts-scars	Not reported as having bruises-welts-scars
Placed in the State Hospital	1*	125
Not placed in the State Hospital	72	307,423

*p < .01, 1 df.

Table 45

Neglected Children at Boy's Ranch

	Reported as neglected	Not reported as neglected
Placed at Boy's Ranch	2*	34
Not placed at Boy's Ranch	44	307,587

*p < .001, 1 df.

Appendix N

Psychological Problems

Matrices

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Withdrawal														X		X	
Shyness												X				X	X
Fear	X			X						X		X			X		
Aggressiveness						X						X					
Absent												X			X		X
Lonely/tardy															X		X
Clingy										X		X					
Uncommunicative									X								
Stealing						X											
Depressed														X			
Social relationships							X	X				X				X	
Enuretic									X								
Lies						X											
Immature	X															X	
Attempted suicide				X													
Hostile		X	X		X					X	X		X				X
Low self esteem														X			
Pyromania						X											
Impulsive						X											

Figure 2. Sexual abuse: Total group.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Masochism																X									
Withdrawal			X								X			X											
Fear																X		X		X		X			
Destructiveness												X	X				X	X							
Aggressiveness					X				X	X			X			X	X								
Absent				X						X			X										X	X	
Vitriolic					X					X								X							
Lonely/tardy																					X				
Clingy		X				X						X				X		X			X				
Stealing					X		X		X	X															
Social relationships			X										X				X					X			
Role Reversal	X																								
Enuretic										X					X				X		X				
Psychosomatic complaints																X									
Lies							X		X							X							X		X
Apathetic																			X						
Cruel to animals																						X			
Immature														X	X										
Depressed								X																	
Pyromania									X								X								
School phobia								X																	
Impulsive									X																

Figure 3. Total group: Neglectful.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Withdrawal															X	X			X	X					X	X	X	X	X
Shyness															X					X									
Fear					X	X	X			X	X			X										X					
Destructiveness							X		X								X		X				X						
Aggressiveness									X								X	X	X				X		X				
Absent	X				X																		X						
Vitriolic							X																						
Lonely/tardy					X							X																	
Clingy							X					X													X				
Uncommunicative									X												X						X		
Stealing		X																	X										
Social relationships			X	X										X	X					X					X				
Enuretic								X				X									X								
Hangs around school															X														
Lies									X										X										
Apathetic								X																					
Cruel to animals														X															
Immature										X					X														
Attempted suicide						X																							
Depressed						X										X													
Character disorder													X											X					
Hostile																						X							
Low self esteem														X															

Figure 4. Total group: Bruises-welts-scars.

VITA

Name: James Lee Christiansen

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Education

University of Utah, 1965-1969, B.S. degree (Elementary Education)
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Full-time Professional Experience

Elementary School Teacher, Hillsdale School, Granite School District, Salt Lake City, Utah, January 1969-June 1971.
Special Education Teacher, Primary Children's Psychiatric Center, Salt Lake City, Utah, August 1971-June 1972.
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Instructor, Department of Special Education, Utah State University, January 1974-August 1974.
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Camp Counselor, Primary Children's Psychiatric Center Summer Day Camp, 1970-1971.
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